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RESEARCH MEMORANDUM

PRESSURE DISTRIBUTIONS ON THREE BODIES OF REVOLUTION TO DETERMINE THE EFFECT OF REYNOLDS NUMBER UP TO AND INCLUDING THE TRANSONIC SPEED RANGE

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NATIONAL ADVISORY COMMITTEE
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RESEARCH MEMORANDUM

PRESSURE DISTRIBUTIONS ON THREE BODIES OF REVOLUTION TO DETERMINE THE EFFECT OF REYNOLDS NUMBER UP TO AND INCLUDING THE TRANSONIC SPEED RANGE

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SUMMARY

This paper presents the results of an investigation conducted in the Langley 16-foot transonic tunnel to determine the effects of varying Reynolds number on the pressure distribution on a transonic body of revolution at angles of attack through the transonic speed range. The effect of a change in sting cone angle on the pressure distributions and a comparison of experimental incremental pressures with theory is also included.

The models were tested through a Mach number range from 0.60 to 1.09. The Reynolds number range based on body length was from 9×10^6 to 39×10^6, and the cross-flow Reynolds number range based on maximum body diameter was 1.3×10^5 to 4.53×10^5 for the model at 8° angle of attack.

An increase in Reynolds number from 9×10^6 to 39×10^6 affected the longitudinal pressure distributions very slightly. These effects were of such a nature as to cause an increase of 0.05 in the normal-force coefficient of the body when tested in the subcritical cross-flow Reynolds number range. This increase is in agreement with theoretical approximations.

A comparison between experimental and theoretical values of the incremental pressure coefficient due to angle of attack indicated good agreement except at angles where separated flow areas existed over the body.

The effect of a change in sting-cone angle from 5° to 9° on the pressure distribution of the 120-inch model was negligible up to a Mach number of 1.05. At this Mach number the effect was to cause a small increase in the velocity over the rear of the body.

INTRODUCTION

Long slender bodies of revolution have been used for airships, fuselages, external stores, and more recently, for missiles. Tests of these bodies have been greatly accelerated because of their increased employment as aerodynamic shapes in the transonic and supersonic speed ranges. Some of the information available for several different bodies is reported in references 1 to 4. Some effects of Reynolds number on the pressure-distribution and force characteristics of the RM-10 missile at supersonic speeds are given in reference 1. Reference 2 presents the results of an investigation of the effects of cross-flow Reynolds number on the aerodynamic forces of bodies of different fineness ratio for various subsonic and supersonic Mach numbers.

Most of the previous investigations of the effects of Reynolds number on the flow over a body of revolution at high Mach numbers have been made with zero pitch attitude of the model. The purpose of the present investigation was to determine the effects of variations in both the longitudinal and cross-flow Reynolds numbers on the pressure distributions over a body of revolution at angles of attack from 0° to 15° for a Mach number range from 0.60 to 1.09. The sting-cone angle was changed from 5° to 9° in the presence of one body during the investigation, and the effects of this change on the pressures over the rear of the body are also discussed. An additional purpose of the investigation was to present an experimental check of a method shown in reference 5 for the calculation of the incremental pressure at any point on a slender body of revolution due to a change in body attitude from zero angle of attack. Reference 4 presents an experimental check of this method in the transonic Mach number range using a body tested at subcritical cross-flow Reynolds numbers. This paper presents a supercritical Reynolds number experimental check of the method.

Three transonic bodies of revolution with identical body profiles (except where modified for different sting supports) were tested in the Langley 16-foot transonic tunnel at angles of attack from -2° to 15° over a Mach number range from 0.60 to 1.09.

SYMBOLS

A	maximum cross-sectional area, πR^2, sq ft
C_N	normal-force coefficient, $\frac{N}{qA}$
d	body diameter, ft

l length, ft

N normal force, lb

P pressure coefficient, $\frac{p - p_o}{q}$

ΔP incremental pressure coefficient due to angle of attack

p local static pressure, lb/sq ft

p_o free-stream static pressure, lb/sq ft

q free-stream dynamic pressure, $\frac{1}{2}\rho V^2$, lb/sq ft

R maximum radius of model, ft

r radius at given station on model, ft

Re free-stream Reynolds number, $\frac{\rho V l}{\mu}$ based on body length

Re_c cross-flow Reynolds number, $\frac{\rho V \sin \alpha d}{\mu}$ based on body diameter

V velocity, ft/sec

x longitudinal distance from nose, ft

α geometric angle of attack, deg

θ meridian angle, measured from bottom of body, deg

μ viscosity, slugs/ft-sec

ρ mass density of air in free stream, slugs/ft^3

APPARATUS

Langley 16-foot transonic tunnel.- A description of the Langley 16-foot transonic tunnel giving details of the slotted transonic test section is presented in reference 6. In this facility the test-section Mach number can be varied continuously from about 0.2 to 1.09 simply

by variation of drive power; no discontinuity in operation is experienced at sonic speed. Figure 1 is a downstream view of the test section of the Langley 16-foot transonic tunnel showing the 120-inch body installed.

Support strut.- Figure 2 is a sketch of the support configuration used in the investigation of the 120-inch body. The main support is a vertical cantilever strut of circular-arc section, capped with a 14-inch-diameter cylindrical body. The cone-shaped sting is faired into this cylinder. The angle of attack of the model is varied by rotation of the complete strut and sting assembly about a point on the longitudinal axis of the body. Figure 3(a) shows the details of the long and short cones with included angles of 5° and 9°, respectively, and the relative position of the 120-inch model to the center of rotation when mounted on either cone. This center of rotation is 96 inches behind the nose of the 120-inch body for the long cone and 60 inches behind the nose for the short cone.

Model dimensions.- The body profile is that of the standard fuselage of basic fineness ratio 12 used in the NACA transonic-wing research program. One model has a maximum diameter of 10 inches, 60 inches behind the nose. The rear of this model is faired into a 2-inch-diameter cylindrical sting section which reduces the length of the actual body below the basic length of 120 inches for a body of this diameter and fineness ratio (see fig. 3(a)). Reference 7, which presents test information obtained from this identical body at zero pitch attitude, has designated the model as a 120-inch body. Therefore, for clarity of reference, despite the above-mentioned sting fairing, this model is designated the 120-inch body. The second model is the same as the 120-inch body with the exception that it is cut off at 100 inches to provide for a heavier sting support. A sketch of this model, designated the 100-inch body, and its sting is shown in figure 3(b). The third model is one-third the size of the 100-inch body with a 33.33-inch actual or 40-inch basic length. Figure 3(b) shows the 33.33-inch body-sting combination and its relative position in the Langley 16-foot transonic tunnel compared with the 100-inch body. A table of nondimensional ordinates for the basic body is shown in figure 3(a). The orifice locations for the 120-inch, the 100-inch, and 33.33-inch bodies are given in figures 3(a) and 3(b), respectively. The basic length of the body is used to define the orifice location in each case.

Model construction.- The models are all metal and were maintained in an aerodynamically clean and smooth condition at all times. The surface ordinates of the 120-inch and the 100-inch bodies were essentially the same; however, they deviated from the design ordinates as indicated in figure 4. The maximum deviation was 0.02 inch between 14 and 17 percent of the length behind the nose, and the deviation was less than 0.008 inch from the specified ordinate over the rest of the body.

TESTS

Test conditions.- The Mach number range covered in this investigation was from 0.60 to 1.09. The test data were obtained at constant tunnel Mach numbers as the angle of attack was varied from -2° to 15°. For the 120-inch body, the number of meridians at which longitudinal pressure distributions over the body were obtained was effectively doubled by rolling the model 22.5° from 0° roll at each test condition.

Figure 5 shows the Reynolds number of these tests. The ranges are 9×10^{6} to 11×10^{6}, 26×10^{6} to 33×10^{6}, and 31×10^{6} to 39×10^{6} for the 33.33-inch, 100-inch, and 120-inch bodies, respectively; all based on body lengths. The cross-flow Reynolds number ranged from 1.3×10^{5} to 4.53×10^{5} with the models at 8° angle of attack. For angles of attack above 8°, Re_c for the 33.33-inch body is in the critical range and below 8° Re_c for the large body approaches the critical region; therefore, cross-flow was investigated at only 8° angle of attack. The free-stream relative humidity was at all times below the saturation point and generally varied from about 80 percent at the lower speeds to less than 30 percent at the maximum speed.

Instrumentation and accuracy of measurements.- The locations of the the pressure orifices are shown in figure 3 for the 100-inch, 120-inch, and 33.33-inch bodies. The pressure orifices in the 120-inch body are located in 5 meridians of 21 orifices each, distributed longitudinally as shown. There were 4 orifice meridians on the 100-inch body and 6 orifice meridians on the 33.33-inch body. It should be noted that the $\theta = 75^{\circ}$ and 105° meridians did not extend the entire length of the 33.33-inch body because of space limitations. The pressure tubes from these orifices were conducted through the sting and strut, and thence to multiple-tube manometers. The pressure coefficients are estimated to be accurate to ± 0.005. The angles of attack as presented are estimated to be accurate to $\pm 0.1^{\circ}$.

Tunnel-wall corrections.- There have been no tunnel-wall corrections applied to the data presented in this paper. Such corrections exclusive of reflected disturbances at supersonic speeds are believed to be negligible within the speed range of the investigation (see ref. 7).

RESULTS AND DISCUSSION

Presentation of pressure distributions.- Table I gives the pressure coefficients on the 120-inch body for 9 meridians and 21 axial positions. Pressure data on the 33.33-inch body was previously presented in reference 4

Comparisons of the pressure distributions along the 0° and 180° meridians of the bodies are depicted in figure 6 for angles of attack from 0° to 15° and Mach numbers from 0.60 to 1.09 as plots of pressure coefficient against fraction of body length. The slight discrepancies which occurred at $x/l = 0.17$ are attributed to local surface deviations of 0.023 inch over the two larger bodies as shown in figure 4. Tunnel boundary reflected disturbances also affected the distributions over the 120-inch body at the supersonic Mach numbers greater than 1.02 (no distributions were obtained over the 100-inch model in this range). These effects were observed at all angles of attack. A comprehensive investigation of these disturbances on bodies of revolution at zero angle of attack is included in reference 8. Reference 7 defines the extent of the effect of these disturbances on the pressure distributions over the 120-inch body at zero angle of attack in the Langley 16-foot transonic tunnel. Mild effects of these reflected interferences on the large bodies are noted in the vicinity of $x/l = 0.35$ at a Mach number of 1.05. The reflected disturbances become stronger as the Mach number is increased. At a Mach number of 1.09, the disturbances cause an abrupt positive increase in the pressure coefficients of the 120-inch body at $x/l = 0.44$. These wall-reflected interferences appear to have little or no effect on the pressure distribution over the smaller 33.33-inch body in the Langley 16-foot transonic tunnel at Mach numbers of 1.05 and greater since the reflected disturbances pass downstream of the body at these tunnel velocities.

The expected pressure-recovery discrepancies between the 33.33-inch and 100-inch bodies and the 120-inch body are apparent in figure 6. The 33.33-inch and 100-inch bodies show an abrupt pressure recovery behind $x/l = 0.75$, whereas the 120-inch body shows a more gradual recovery farther downstream on the afterbody.

Effect of Reynolds Number On the Body Pressure Distributions

Longitudinal pressure distributions.- The effect of increasing the Reynolds number over body sections is to move the transition point from laminar to turbulent flow toward the nose of the body at subsonic speeds. This movement would increase the area of turbulent flow over the body surface and it would be expected that separation would be delayed to higher angles of attack. Such changes in the flow would be indicated in both the pressure distributions and force measurements obtained from the body. However, if a turbulent boundary layer exists over the entire body, no changes should be expected in the pressure distributions with increases in Reynolds number (for example, ref. 9).

Comparison of the pressure coefficients at the 0° and 180° meridians for the bodies in figure 6 show small differences in the subsonic speed range. Comparisons at the other meridian stations not included show similar results. Similar differences are shown in the supersonic speed

range except in those regions where wall-reflected wave interferences intersect the large bodies. It is estimated that the boundary-layer flow over the two large bodies was almost completely turbulent since the Reynolds number was generally about 30×10^6, and reference 10 shows that transition occurs at a Reynolds number of about 11×10^6 on a highly polished body. Reference 10 also showed no effect of Reynolds number at zero angle on the pressure distributions except in a region of adverse pressure gradient near the model base. Since very small differences in pressure coefficient occurred near the rearmost orifices of the 33.33-inch body when compared to the 100-inch body, it is estimated that the boundary-layer flow was turbulent in this region.

Because only slight variations in the pressure distributions along the body meridians were noted where comparisons were possible, it was believed that more significant differences might become apparent if the circumferential pressure coefficients were examined at stations along the body.

<u>Circumferential pressure distributions</u>.- When a body of revolution is rotated to an angle of attack, the cross section of the body presented to that component of the air stream normal to the longitudinal axis is a circular cylinder. It has long been known that an abrupt reduction in the pressure drag of cylinders occurs when the boundary layer changes from laminar to turbulent flow. If Re is below the critical values, there is laminar flow over the cylinder and separation of the boundary layer occurs near the maximum radius, however, if Re is above the critical value, turbulent flow exists and the boundary layer remains attached to the cylinder until near the rear stagnation point. Reference 11 shows the critical Reynolds number range for a cylinder to be from 2×10^5 to 4×10^5. Significant changes in the pressure distribution around the cylinder should be evident with the separated laminar flow yielding lower pressure coefficients.

Figure 7 shows the variation of pressure coefficient with meridian angle at $x/l = 0.10$ for all the bodies at 8° angle of attack and Mach numbers of 0.60, 0.95, 1.00, and 1.02. The data for the 33.33-inch body from reference 4 are also presented. The $x/l = 0.10$ station was chosen because the local cross-flow Reynolds number for all the bodies would be below the critical value. There is good agreement between the pressure coefficients for all the bodies at most meridian angles and Mach numbers. Figure 8 shows the circumferential pressures for two stations near the maximum diameter for all bodies at 8° angle of attack and at Mach numbers of 1.00 and 1.02. In this case the local cross-flow Reynolds number is above the critical range for the large bodies and below the critical range for the 33.33-inch body. The pressure distributions at $x/l = 0.36$ and $x/l = 0.61$ for a Mach number of 1.00 show that the small body is developing more negative pressures over the upper

surface $(\theta \geq 90^{\circ})$. At a Mach number of 1.02 and $x/l = 0.36$ it appears that the pressure distributions of the large bodies and the 33.33-inch body in the Langley 8-foot transonic tunnel are being affected by slight boundary reflected over-expansions (see ref. 8) since the 33.33-inch body pressures of the present investigation are more positive at all meridian angles. At the same Mach number but at the more rearward body location of $x/l = 0.61$, the distributions indicate no such interferences. The slotted-tunnel interference investigation of reference 8 made with this identical 33.33-inch body indicated that no local disagreement in pressure distributions should be anticipated at this body location at a Mach number of 1.02.

In general, it has been shown that the small changes in the axial distribution of pressure coefficients may be significant when examined in the light of the circumferential distributions around the body. Reference 3 indicated that the normal force of a body might be increased by an increment of cross-drag and that some differences might be expected between the forces of a body operated in subcritical and supercritical Re_c. This expected difference in normal-force coefficient could be attributed to the change in cross-drag coefficient for a circular cylinder from 1.2 to about 0.3 when the critical cross-flow Reynolds number range was exceeded. Calculation of the normal-force coefficients for the 33.33-inch body and the 100-inch body by the method of reference 3 indicates that an increment of about 0.05 should be evident. The associated changes in drag and pitching moment are very small. Figure 9 shows the normal-force coefficient at 8° angle of attack for the 33.33-inch and 100-inch bodies at Mach numbers from 0.80 to 1.02. The values were obtained from integration of the pressure data, and the normal-force coefficients for the 33.33-inch body are from reference 4. The increase of about 0.05 in the normal-force coefficient of the small body over the 100-inch body which is in good agreement with the theoretical approximations is estimated to be the result of operating in a subcritical cross-flow Reynolds number range as shown by the circumferential pressure distributions in figure 8.

Incremental pressure coefficients due to angle of attack.- The gradual changes shown in the pressure coefficients even at the high subsonic and transonic Mach numbers encourage the use of a simple approach to the evaluation of the body-pressure distributions. Reference 5 presents a method for estimating the theoretical value of incremental pressure coefficients due to angle of attack on an inclined slender body of revolution. The basic assumption made in the application of this theory is that the crosswise flow on a slender inclined body of revolution may be treated simply by considering only the flow perpendicular to the body longitudinal axis. The variation in incremental pressure coefficients with the meridian angle for the 120-inch and 33.33-inch bodies at 8° nominal angle of attack and three Mach numbers is shown in figure 10. The theoretical curve for each case is obtained by the method of reference 5,

and the experimental values are shown for the indicated Mach numbers. The agreement between experimental values and theory is similar to that reported in reference 4 for the 33.33-inch body alone and these data substantiate the statements therein that this theoretical approximation is valid through the transonic speed range for unseparated flow. The theory of reference 5 was developed for the inviscid case and does not apply where separation over the body exists. Separation over the upper rear surface of the body is indicated by a break in the pattern, at a meridian angle near 90°, to an incremental pressure coefficient which tends toward zero. This can be clearly seen at $x/l = 0.767$ in figure 10.

Effect of change in sting-cone angle.- Figure 11 shows the pressure distribution along the 180° meridian of the 120-inch body for the 5° and 9° sting-cone angles for 0° angle of attack and Mach numbers of 0.60, 0.95, 1.00, and 1.05. The change in sting-cone angle was coincident with a change in tunnel axial position of the model as shown in figure 3. For this reason, the very small axial changes in local velocity in the empty tunnel must be evaluated in addition to the local velocity changes on the body attributable to the change in sting-cone angle. The effect of the change in sting-cone angle from 5° to 9° and the coincident shift in tunnel axial position is very small. At the subsonic Mach numbers (0.60 and 0.95) the experimental data showed higher velocities over the rear portion of the body in the presence of the 5° cone which were fully explained by the change in axial position. At sonic speed the velocities were higher in the presence of the 9° cone which was again traced to the change in axial position. At a Mach number of 1.05, however, the change in axial position did not entirely explain the higher velocities on the afterbody in the presence of the 9° cone. The higher velocities in the presence of the 9° cone are opposite in sense to the difference expected from a theoretical consideration of the subsonic flow ahead of two different cones. The maximum difference in pressure coefficient is only 0.025 at a Mach number of 1.05, but it serves to emphasize that sting-support systems should be kept as small as possible with their maximum diameter far behind the model.

CONCLUSIONS

The investigation of three slender bodies of revolution at angles of attack from -2° to 15° through a Mach number range of 0.60 to 1.09 has led to the following conclusions:

1. Reynolds number had a small effect on the axial pressure distributions of these slender bodies of revolution for the range of the variables investigated.

2. The decrease in the body normal-force coefficient when increasing the cross-flow Reynolds number above the critical range is in agreement with theoretical approximations.

3. Existing theory for calculation of incremental pressure coefficients on a slender body of revolution operating at angle of attack yields results which are in good agreement with experiment except in areas of separated flow.

4. The effect of a change in sting-cone angle from 5° to 9° and a coincident change in tunnel axial position on the pressure distribution was negligible up to a Mach number of 1.05.

Langley Aeronautical Laboratory,
National Advisory Committee for Aeronautics,
Langley Field, Va., August 11, 1953.

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TABLE I

PRESSURE COEFFICIENTS OF A 120-INCH FINENESS-RATIO-12 BODY OF REVOLUTION IN THE LANGLEY 16-FOOT TRANSONIC TUNNEL

(a) M = 0.60.

$\alpha = -2.1^\circ$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.0959	0.0843	0.0928	0.1044	0.1200	0.1337	0.1491	0.1576	0.1601
.033	.0578	.0568	.0637	.0660	.0800	.0879	.1037	.1081	.1109
.067	.0087	.0092	.0164	.0165	.0309	.0348	.0491	.0531	.0527
.100	-.0094	-.0037	.0055	0	.0127	.0128	.0236	.0238	.0273
.133	-.0240	-.0385	-.0309	-.0238	-.0109	-.0037	-.0091	.0073	.0127
.167	-.0567	-.0605	-.0527	-.0550	-.0437	-.0403	-.0273	-.0238	-.0200
.233	-.0676	-.0696	-.0637	-.0715	-.0618	-.0568	-.0455	-.0495	-.0437
.300	-.0621	-.0641	-.0600	-.0696	-.0618	-.0605	-.0509	-.0495	-.0546
.367	-.0607	-.0623	-.0564	-.0641	-.0582	-.0605	-.0509	-.0495	-.0418
.433	-.0603	-.0641	-.0600	-.0678	-.0637	-.0641	-.0564	-.0605	-.0546
.500	-.0603	-.0641	-.0600	-.0715	-.0655	-.0696	-.0618	-.0660	-.0582
.567	-.0548	-.0550	-.0527	-.0623	-.0564	-.0641	-.0564	-.0623	-.0546
.633	-.0567	-.0623	-.0582	-.0660	-.0637	-.0733	-.0655	-.0715	-.0655
.700	-.0494	-.0531	-.0491	-.0641	-.0637	-.0715	-.0673	-.0751	-.0691
.733	-.0331	-.0403	-.0364	-.0476	-.0491	-.0586	-.0546	-.0623	-.0564
.767	-.0058	-.0128	-.0091	-.0202	-.0200	-.0330	-.0309	-.0403	-.0327
.800	.0214	.0183	.0200	.0073	.0091	0	.0018	-.0055	0
.833	.0432	.0421	.0455	.0348	.0382	.0311	.0309	.0202	.0255
.867	.0632	.0623	.0673	.0605	.0618	.0531	.0564	.0495	.0527
.900	.0959	.0934	.0982	.0934	.0982	.0934	.1000	.0934	.0982
.933	.0995	.0934	.0982	.0934	.0982	.0953	.1019	.0971	.1019

$\alpha = 4.1^\circ$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.1825	0.1718	0.1480	0.1352	0.1078	0.0895	0.0768	0.0749	0.0749
.033	.1333	.1316	.1115	.0914	.0658	.0530	.0439	.0365	.0384
.067	.0748	.0713	.0530	.0329	.0146	.0037	-.0018	0	.0018
.100	.0456	.0530	.0384	.0128	-.0018	-.0164	-.0201	-.0219	-.0219
.133	.0274	.0110	-.0037	-.0110	-.0256	-.0311	-.0347	-.0365	-.0365
.167	-.0110	-.0146	-.0292	-.0457	-.0585	-.0640	-.0658	-.0621	-.0603
.233	-.0383	-.0384	-.0475	-.0658	-.0749	-.0749	-.0749	-.0713	-.0713
.300	-.0420	-.0439	-.0530	-.0676	-.0749	-.0731	-.0694	-.0621	-.0621
.367	-.0460	-.0457	-.0548	-.0658	-.0694	-.0694	-.0658	-.0603	-.0585
.433	-.0529	-.0548	-.0621	-.0713	-.0731	-.0694	-.0640	-.0603	-.0603
.500	-.0602	-.0621	-.0676	-.0768	-.0749	-.0731	-.0640	-.0603	-.0603
.567	-.0602	-.0603	-.0640	-.0694	-.0676	-.0621	-.0530	-.0512	-.0493
.633	-.0730	-.0731	-.0749	-.0768	-.0713	-.0676	-.0567	-.0548	-.0512
.700	-.0785	-.0768	-.0749	-.0786	-.0713	-.0603	-.0493	-.0457	-.0439
.733	-.0675	-.0694	-.0676	-.0640	-.0530	-.0420	-.0329	-.0292	-.0274
.767	-.0456	-.0475	-.0439	-.0365	-.0238	-.0146	-.0073	-.0054	-.0018
.800	-.0164	-.0146	-.0091	-.0055	.0073	.0183	.0238	.0256	.0274
.833	.0128	.0146	.0201	.0256	.0365	.0439	.0457	.0439	.0457
.867	.0402	.0439	.0493	.0567	.0621	.0621	.0621	.0621	.0640
.900	.0913	.0932	.0969	.0950	.0950	.0932	.0932	.0914	.0914
.933	.1077	.1042	.1005	.0950	.0932	.0914	.0932	.0932	.0969

$\alpha = 0^\circ$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.1187	0.1154	0.1170	0.1228	0.1224	0.1283	0.1279	0.1319	0.1334
.033	.0803	.0843	.0841	.0843	.0841	.0843	.0859	.0861	.0877
.067	.0256	.0311	.0329	.0311	.0329	.0330	.0347	.0366	.0365
.100	.0073	.0165	.0183	.0147	.0146	.0092	.0110	.0073	.0073
.133	-.0110	-.0183	-.0183	-.0092	-.0091	-.0037	-.0037	-.0055	-.0037
.167	-.0420	-.0421	-.0420	-.0421	-.0402	-.0403	-.0384	-.0348	-.0347
.233	-.0602	-.0550	-.0548	-.0586	-.0585	-.0550	-.0548	-.0550	-.0548
.300	-.0566	-.0550	-.0548	-.0586	-.0585	-.0568	-.0548	-.0550	-.0548
.367	-.0556	-.0531	-.0530	-.0550	-.0548	-.0550	-.0548	-.0513	-.0512
.433	-.0584	-.0586	-.0585	-.0605	-.0603	-.0586	-.0585	-.0586	-.0603
.500	-.0621	-.0623	-.0621	-.0623	-.0621	-.0623	-.0621	-.0605	-.0621
.567	-.0584	-.0550	-.0548	-.0550	-.0548	-.0550	-.0548	-.0550	-.0548
.633	-.0639	-.0623	-.0621	-.0605	-.0621	-.0623	-.0621	-.0623	-.0621
.700	-.0602	-.0568	-.0585	-.0605	-.0621	-.0623	-.0603	-.0623	-.0621
.733	-.0438	-.0440	-.0457	-.0476	-.0457	-.0458	-.0457	-.0458	-.0457
.767	-.0164	-.0183	-.0183	-.0183	-.0183	-.0220	-.0219	-.0202	-.0219
.800	.0128	.0128	.0110	.0092	.0091	.0110	.0110	.0110	.0110
.833	.0365	.0385	.0384	.0366	.0365	.0385	.0384	.0348	.0365
.867	.0602	.0623	.0640	.0605	.0621	.0605	.0621	.0605	.0621
.900	.0986	.0989	.0987	.0971	.0987	.0989	.0987	.0989	.0987
.933	.1004	.0989	.1005	.0989	.1005	.0989	.0987	.0989	.0987

$\alpha = 6.2^\circ$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.2165	0.1960	0.1544	0.1209	0.0772	0.0605	0.0441	0.0476	0.0441
.033	.1633	.1539	.1139	.0788	.0404	.0238	.0110	.0165	.0129
.067	.0991	.0898	.0551	.0202	-.0110	-.0220	-.0257	-.0183	-.0202
.100	.0661	.0696	.0368	.0018	-.0257	-.0403	-.0441	-.0385	-.0366
.133	.0459	.0257	-.0055	-.0238	-.0496	-.0531	-.0551	-.0513	-.0515
.167	.0073	-.0018	-.0294	-.0586	-.0809	-.0806	-.0845	-.0733	-.0735
.233	-.0239	-.0275	-.0533	-.0788	-.0956	-.0953	-.0900	-.0788	-.0790
.300	-.0330	-.0366	-.0588	-.0824	-.0956	-.0898	-.0809	-.0678	-.0680
.367	-.0401	-.0421	-.0625	-.0806	-.0900	-.0843	-.0753	-.0623	-.0606
.433	-.0477	-.0550	-.0735	-.0879	-.0956	-.0843	-.0735	-.0623	-.0606
.500	-.0587	-.0623	-.0790	-.0934	-.0974	-.0843	-.0698	-.0605	-.0588
.567	-.0587	-.0623	-.0772	-.0861	-.0882	-.0733	-.0588	-.0513	-.0478
.633	-.0771	-.0770	-.0900	-.0934	-.0900	-.0733	-.0588	-.0531	-.0515
.700	-.0862	-.0843	-.0919	-.0953	-.0845	-.0623	-.0515	-.0458	-.0441
.733	-.0771	-.0788	-.0845	-.0806	-.0662	-.0403	-.0331	-.0293	-.0257
.767	-.0569	-.0605	-.0625	-.0513	-.0331	-.0110	-.0092	-.0073	-.0055
.800	-.0294	-.0257	-.0257	-.0183	.0018	.0183	.0184	.0202	.0202
.833	-.0018	.0018	.0037	.0183	.0331	.0403	.0386	.0366	.0368
.867	.0257	.0311	.0515	.0531	.0570	.0586	.0551	.0550	.0515
.900	.0789	.0843	.0882	.0916	.0919	.0898	.0864	.0843	.0827
.933	.1138	.1099	.0992	.0953	.0900	.0898	.0919	.0971	.1011

$\alpha = 2.0^\circ$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.1475	0.1425	0.1335	0.1316	0.1225	0.1096	0.1024	0.1042	0.1005
.033	.1020	.1078	.1005	.0914	.0804	.0694	.0640	.0621	.0585
.067	.0455	.0512	.0439	.0347	.0256	.0219	.0165	.0183	.0128
.100	.0237	.0329	.0274	.0146	.0091	-.0018	-.0055	-.0073	-.0091
.133	.0036	-.0055	-.0110	-.0091	-.0146	-.0164	-.0183	-.0201	-.0238
.167	-.0310	-.0311	-.0347	-.0402	-.0475	-.0512	-.0530	-.0493	-.0512
.233	-.0528	-.0493	-.0530	-.0621	-.0640	-.0640	-.0658	-.0640	-.0676
.300	-.0528	-.0512	-.0530	-.0621	-.0640	-.0621	-.0640	-.0585	-.0622
.367	-.0561	-.0512	-.0530	-.0585	-.0603	-.0621	-.0603	-.0585	-.0567
.433	-.0601	-.0585	-.0603	-.0640	-.0640	-.0621	-.0640	-.0621	-.0640
.500	-.0637	-.0640	-.0658	-.0694	-.0676	-.0676	-.0640	-.0640	-.0640
.567	-.0619	-.0585	-.0603	-.0621	-.0603	-.0585	-.0567	-.0548	-.0530
.633	-.0710	-.0694	-.0695	-.0676	-.0658	-.0640	-.0603	-.0603	-.0603
.700	-.0728	-.0694	-.0676	-.0694	-.0658	-.0603	-.0567	-.0548	-.0530
.733	-.0583	-.0603	-.0567	-.0530	-.0494	-.0457	-.0402	-.0384	-.0366
.767	-.0346	-.0365	-.0311	-.0274	-.0219	-.0183	-.0146	-.0128	-.0110
.800	-.0055	-.0018	.0018	.0018	.0073	.0128	.0165	.0183	.0201
.833	.0237	.0274	.0274	.0311	.0347	.0402	.0420	.0420	.0420
.867	.0492	.0530	.0567	.0567	.0585	.0621	.0640	.0640	.0640
.900	.0947	.0950	.0969	.0950	.0951	.0950	.0969	.0950	.0951
.933	.1001	.0987	.0987	.0950	.0951	.0950	.0951	.0950	.0951

$\alpha = 8.3^\circ$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.2581	0.2230	0.1612	0.1042	0.0458	0.0201	0.0110	0.0201	0.0202
.033	.1995	.1773	.1209	.0640	.0092	-.0128	-.0165	-.0073	0
.067	.1299	.1078	.0605	.0018	-.0385	-.0493	-.0495	-.0347	-.0348
.100	.1007	.0877	.0385	-.0146	-.0513	-.0658	-.0623	-.0493	-.0476
.133	.0750	.0420	-.0037	-.0402	-.0733	-.0786	-.0715	-.0621	-.0586
.167	.0329	.0146	-.0293	-.0749	-.1044	-.1078	-.0989	-.0822	-.0806
.233	-.0018	-.0146	-.0550	-.0950	-.1191	-.1151	-.0989	-.0822	-.0806
.300	-.0128	-.0274	-.0641	-.1005	-.1191	-.1078	-.0861	-.0713	-.0660
.367	-.0256	-.0347	-.0678	-.0987	-.1136	-.1023	-.0788	-.0640	-.0586
.433	-.0329	-.0475	-.0788	-.1060	-.1173	-.0987	-.0751	-.0640	-.0586
.500	-.0458	-.0585	-.0861	-.1115	-.1173	-.0969	-.0715	-.0621	-.0550
.567	-.0494	-.0603	-.0861	-.1042	-.1063	-.0804	-.0586	-.0548	-.0440
.633	-.0677	-.0786	-.1008	-.1133	-.1063	-.0749	-.0586	-.0585	-.0476
.700	-.0824	-.0877	-.1063	-.1151	-.0989	-.0603	-.0513	-.0530	-.0421
.733	-.0750	-.0859	-.1008	-.0987	-.0733	-.0365	-.0348	-.0365	-.0275
.767	-.0586	-.0676	-.0770	-.0676	-.0348	-.0110	-.0110	-.0164	-.0110
.800	-.0311	-.0365	-.0421	-.0311	.0037	.0164	.0165	.0091	.0147
.833	-.0055	-.0073	-.0073	.0091	.0348	.0402	.0366	.0274	.0293
.867	.0220	.0238	.0275	.0512	.0586	.0585	.0531	.0493	.0440
.900	.0805	.0822	.0879	.0969	.0953	.0950	.0898	.0895	.0843
.933	.1299	.1188	.1044	.0987	.0953	.0950	.0934	.1005	.1026

NACA

TABLE I.- Continued

PRESSURE COEFFICIENTS OF A 120-INCH FINENESS-RATIO-12 BODY OF

REVOLUTION IN THE LANGLEY 16-FOOT TRANSONIC TUNNEL

(b) M = 0.80.

$\alpha = -2.2^\circ$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.1138	0.1155	0.1201	0.1316	0.1471	0.1601	0.1789	0.1836	0.1911
.033	.0759	.0758	.0834	.0857	.1006	.1068	.1238	.1316	.1373
.067	.0234	.0250	.0308	.0312	.0418	.0498	.0639	.0721	.0761
.100	.0039	.0102	.0149	.0114	.0235	.0315	.0382	.0449	.0431
.133	-.0156	-.0270	-.0242	-.0134	-.0034	.0052	.0186	.0213	.0247
.167	-.0523	-.0555	-.0511	-.0530	-.0438	-.0369	-.0279	-.0171	-.0120
.233	-.0645	-.0654	-.0634	-.0679	-.0609	-.0568	-.0475	-.0444	-.0389
.300	-.0596	-.0617	-.0597	-.0667	-.0609	-.0580	-.0499	-.0456	-.0414
.367	-.0549	-.0555	-.0548	-.0592	-.0560	-.0580	-.0511	-.0444	-.0414
.433	-.0571	-.0629	-.0609	-.0667	-.0634	-.0642	-.0585	-.0568	-.0536
.500	-.0596	-.0629	-.0621	-.0679	-.0683	-.0691	-.0634	-.0642	-.0609
.567	-.0535	-.0530	-.0536	-.0592	-.0597	-.0617	-.0585	-.0592	-.0560
.633	-.0584	-.0605	-.0609	-.0654	-.0670	-.0729	-.0695	-.0716	-.0695
.700	-.0535	-.0543	-.0560	-.0654	-.0683	-.0741	-.0732	-.0791	-.0744
.733	-.0327	-.0382	-.0389	-.0444	-.0499	-.0555	-.0585	-.0592	-.0585
.767	-.0046	-.0084	-.0095	-.0146	-.0193	-.0283	-.0316	-.0357	-.0340
.800	.0283	.0263	.0259	.0201	.0149	.0102	.0064	.0015	.0027
.833	.0527	.0523	.0516	.0461	.0443	.0411	.0382	.0325	.0321
.867	.0772	.0758	.0761	.0721	.0724	.0672	.0651	.0634	.0639
.900	.1077	.1068	.1091	.1056	.1091	.1093	.1116	.1093	.1103
.933	.1089	.1081	.1079	.1056	.1079	.1068	.1116	.1105	.1128

$\alpha = -0.1^\circ$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.1385	0.1411	0.1427	0.1486	0.1500	0.1535	0.1562	0.1535	0.1574
.033	.0969	.0975	.1022	.0987	.1034	.1012	.1034	.1049	.1071
.067	.0386	.0439	.0457	.0439	.0445	.0464	.0469	.0489	.0528
.100	.0174	.0252	.0260	.0214	.0223	.0237	.0199	.0177	.0174
.133	-.0034	-.0135	-.0120	-.0022	-.0022	.0040	.0052	.0015	.0015
.167	-.0414	-.0434	-.0415	-.0446	-.0415	-.0396	-.0378	-.0346	-.0317
.233	-.0597	-.0583	-.0575	-.0608	-.0599	-.0583	-.0575	-.0575	-.0562
.300	-.0585	-.0571	-.0575	-.0621	-.0611	-.0583	-.0575	-.0558	-.0526
.367	-.0559	-.0533	-.0538	-.0571	-.0562	-.0571	-.0562	-.0521	-.0513
.433	-.0597	-.0621	-.0625	-.0646	-.0624	-.0621	-.0611	-.0621	-.0611
.500	-.0646	-.0658	-.0636	-.0670	-.0661	-.0670	-.0661	-.0658	-.0636
.567	-.0597	-.0583	-.0575	-.0596	-.0587	-.0583	-.0587	-.0583	-.0575
.633	-.0683	-.0683	-.0661	-.0670	-.0624	-.0683	-.0673	-.0683	-.0673
.700	-.0670	-.0658	-.0636	-.0695	-.0685	-.0695	-.0673	-.0695	-.0685
.733	-.0475	-.0496	-.0489	-.0508	-.0513	-.0508	-.0513	-.0484	-.0501
.767	-.0193	-.0209	-.0206	-.0209	-.0206	-.0247	-.0231	-.0234	-.0231
.800	.0149	.0152	.0162	.0140	.0138	.0140	.0150	.0140	.0138
.833	.0431	.0426	.0445	.0414	.0420	.0426	.0445	.0401	.0420
.867	.0700	.0713	.0715	.0675	.0691	.0675	.0690	.0688	.0702
.900	.1079	.1074	.1095	.1062	.1058	.1074	.1095	.1074	.1095
.933	.1091	.1074	.1095	.1087	.1083	.1074	.1083	.1074	.1083

$\alpha = 2.0^\circ$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.1735	0.1779	0.1628	0.1656	0.1531	0.1471	0.1359	0.1322	0.1286
.033	.1271	.1310	.1213	.1150	.1029	.0952	.0858	.0878	.0834
.067	.0625	.0706	.0614	.0558	.0418	.0392	.0333	.0385	.0333
.100	.0405	.0508	.0406	.0348	.0210	.0156	.0076	.0076	.0051
.133	.0161	.0089	.0002	.0089	-.0034	.0002	-.0083	-.0072	-.0120
.167	-.0242	-.0220	-.0315	-.0343	-.0438	-.0405	-.0487	-.0417	-.0462
.233	-.0473	-.0417	-.0499	-.0540	-.0609	-.0590	-.0621	-.0590	-.0621
.300	-.0498	-.0441	-.0511	-.0553	-.0609	-.0565	-.0609	-.0516	-.0560
.367	-.0502	-.0429	-.0499	-.0491	-.0572	-.0553	-.0572	-.0503	-.0535
.433	-.0559	-.0553	-.0597	-.0590	-.0633	-.0590	-.0609	-.0565	-.0584
.500	-.0620	-.0590	-.0633	-.0639	-.0658	-.0639	-.0633	-.0590	-.0609
.567	-.0595	-.0553	-.0584	-.0565	-.0584	-.0553	-.0548	-.0503	-.0523
.633	-.0717	-.0676	-.0707	-.0651	-.0658	-.0627	-.0609	-.0577	-.0584
.700	-.0754	-.0688	-.0707	-.0701	-.0682	-.0614	-.0584	-.0540	-.0560
.733	-.0571	-.0577	-.0560	-.0528	-.0499	-.0429	-.0389	-.0343	-.0340
.767	-.0315	-.0306	-.0291	-.0232	-.0181	-.0133	-.0120	-.0072	-.0071
.800	.0039	.0089	.0100	.0113	.0161	.0237	.0247	.0299	.0271
.833	.0344	.0385	.0394	.0422	.0455	.0521	.0516	.0545	.0516
.867	.0637	.0693	.0687	.0706	.0711	.0755	.0736	.0780	.0760
.900	.1101	.1125	.1103	.1113	.1090	.1113	.1090	.1113	.1091
.933	.1137	.1150	.1115	.1125	.1090	.1100	.1078	.1100	.1091

$\alpha = 4.1^\circ$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.2110	0.2089	0.1775	0.1719	0.1359	0.1262	0.1090	0.1052	0.1017
.033	.1586	.1571	.1335	.1188	.0895	.0756	.0650	.0632	.0601
.067	.0916	.0941	.0724	.0595	.0308	.0262	.0137	.0188	.0186
.100	.0660	.0706	.0491	.0336	.0088	.0032	-.0083	-.0059	-.0095
.133	.0404	.0262	.0064	.0077	-.0156	-.0158	-.0242	-.0232	-.0254
.167	.0022	-.0059	-.0254	-.0356	-.0548	-.0553	-.0621	-.0553	-.0572
.233	-.0302	-.0294	-.0474	-.0578	-.0719	-.0701	-.0719	-.0664	-.0682
.300	-.0363	-.0368	-.0523	-.0615	-.0719	-.0677	-.0670	-.0578	-.0597
.367	-.0415	-.0380	-.0511	-.0566	-.0670	-.0652	-.0621	-.0541	-.0548
.433	-.0473	-.0504	-.0621	-.0664	-.0731	-.0677	-.0621	-.0578	-.0572
.500	-.0570	-.0590	-.0682	-.0714	-.0768	-.0714	-.0645	-.0578	-.0572
.567	-.0570	-.0553	-.0645	-.0664	-.0670	-.0627	-.0548	-.0479	-.0487
.633	-.0716	-.0701	-.0780	-.0738	-.0743	-.0689	-.0584	-.0529	-.0535
.700	-.0801	-.0763	-.0804	-.0813	-.0743	-.0640	-.0523	-.0467	-.0462
.733	-.0643	-.0677	-.0694	-.0640	-.0548	-.0417	-.0315	-.0245	-.0254
.767	-.0436	-.0430	-.0425	-.0343	-.0205	-.0109	-.0034	.0002	.0002
.800	-.0083	-.0059	-.0034	.0015	.0161	.0262	.0284	.0336	.0320
.833	.0234	.0262	.0308	.0348	.0467	.0533	.0528	.0558	.0553
.867	.0551	.0583	.0626	.0694	.0724	.0756	.0724	.0756	.0736
.900	.1062	.1089	.1103	.1102	.1066	.1089	.1042	.1052	.1042
.933	.1208	.1200	.1127	.1114	.1042	.1040	.1042	.1064	.1090

$\alpha = 6.2^\circ$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.2487	0.2344	0.1873	0.1635	0.1127	0.0913	0.0785	0.0677	0.0760
.033	.1927	.1797	.1445	.1075	.0663	.0428	.0357	.0316	.0381
.067	.1208	.1112	.0785	.0453	.0088	-.0057	-.0083	-.0070	.0002
.100	.0928	.0851	.0540	.0217	-.0095	-.0233	-.0267	-.0306	-.0230
.133	.0648	.0403	.0100	-.0057	-.0340	-.0443	-.0413	-.0468	-.0364
.167	.0210	.0067	-.0218	-.0493	-.0731	-.0829	-.0768	-.0767	-.0658
.233	-.0132	-.0219	-.0474	-.0729	-.0902	-.0966	-.0829	-.0816	-.0719
.300	-.0217	-.0331	-.0535	-.0791	-.0902	-.0916	-.0743	-.0704	-.0609
.367	-.0302	-.0356	-.0548	-.0767	-.0829	-.0879	-.0682	-.0655	-.0535
.433	-.0375	-.0518	-.0682	-.0866	-.0902	-.0903	-.0670	-.0667	-.0560
.500	-.0497	-.0605	-.0756	-.0916	-.0927	-.0916	-.0670	-.0642	-.0548
.567	-.0521	-.0605	-.0719	-.0866	-.0902	-.0791	-.0548	-.0530	-.0438
.633	-.0692	-.0791	-.0878	-.0966	-.0878	-.0816	-.0572	-.0580	-.0487
.700	-.0814	-.0891	-.0939	-.1040	-.0853	-.0717	-.0487	-.0518	-.0413
.733	-.0692	-.0816	-.0902	-.0892	-.0609	-.0468	-.0291	-.0306	-.0218
.767	-.0509	-.0605	-.0572	-.0543	-.0242	-.0144	-.0022	-.0070	-.0015
.800	-.0168	-.0219	-.0169	-.0169	.0161	.0229	.0271	.0229	.0296
.833	.0161	.0080	.0186	.0217	.0467	.0453	.0504	.0416	.0491
.867	.0453	.0403	.0540	.0590	.0711	.0665	.0675	.0602	.0663
.900	.1026	.0963	.1078	.1025	.1054	.1013	.1029	.0951	.0993
.933	.1342	.1249	.1176	.1088	.1054	.1000	.1066	.1075	.1200

$\alpha = 8.4^\circ$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.2845	0.2689	0.1924	0.1546	0.0798	0.0564	0.0455	0.0440	0.0504
.033	.2235	.2105	.1483	.0987	.0345	.0104	.0064	.0104	.0174
.067	.1479	.1372	.0786	.0340	-.0206	-.0355	-.0328	-.0231	-.0132
.100	.1174	.1098	.0529	.0092	-.0401	-.0482	-.0499	-.0442	-.0353
.133	.0881	.0614	.0076	-.0181	-.0634	-.0728	-.0610	-.0567	-.0487
.167	.0429	.0278	-.0242	-.0616	-.1013	-.1088	-.0952	-.0852	-.0744
.233	.0039	-.0045	-.0524	-.0877	-.1185	-.1200	-.0977	-.0852	-.0769
.300	-.0071	-.0194	-.0622	-.0952	-.1185	-.1138	-.0842	-.0741	-.0622
.367	-.0152	-.0244	-.0634	-.0927	-.1111	-.1076	-.0769	-.0654	-.0548
.433	-.0278	-.0430	-.0793	-.1039	-.1173	-.1076	-.0720	-.0678	-.0548
.500	-.0425	-.0542	-.0867	-.1101	-.1185	-.1076	-.0707	-.0678	-.0548
.567	-.0473	-.0554	-.0867	-.1064	-.1075	-.0915	-.0585	-.0579	-.0426
.633	-.0693	-.0778	-.1026	-.1163	-.1087	-.0890	-.0597	-.0641	-.0475
.700	-.0839	-.0902	-.1111	-.1238	-.1013	-.0716	-.0524	-.0591	-.0426
.733	-.0754	-.0877	-.1026	-.1064	-.0720	-.0442	-.0340	-.0393	-.0242
.767	-.0583	-.0678	-.0769	-.0728	-.0279	-.0107	-.0059	-.0169	-.0059
.800	-.0254	-.0306	-.0340	-.0306	.0149	.0216	.0223	.0117	.0198
.833	.0063	.0017	.0039	.0117	.0455	.0452	.0455	.0340	.0382
.867	.0356	.0328	.0431	.0577	.0700	.0676	.0639	.0577	.0553
.900	.0966	.0937	.1067	.1074	.1092	.1061	.1043	.1024	.0994
.933	.1454	.1384	.1226	.1148	.1092	.1061	.1092	.1111	.1202

NACA

TABLE I.- Continued

PRESSURE COEFFICIENTS OF A 120-INCH FINENESS-RATIO-12 BODY OF REVOLUTION IN THE LANGLEY 16-FOOT TRANSONIC TUNNEL

(c) M = 0.90.

$\alpha = -2.3^\circ$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.1315	0.1325	0.1416	0.1527	0.1679	0.1826	0.1986	0.2061	0.2106
.033	.0900	.0919	.0957	.1037	.1165	.1250	.1405	.1485	.1526
.067	.0288	.0354	.0398	.0429	.0552	.0621	.0760	.0823	.0924
.100	.0103	.0173	.0234	.0215	.0300	.0354	.0461	.0450	.0530
.133	-.0127	-.0222	-.0215	-.0062	.0026	.0130	.0245	.0269	.0311
.167	-.0553	-.0584	-.0554	-.0531	-.0466	-.0382	-.0258	-.0190	-.0138
.233	-.0716	-.0702	-.0685	-.0712	-.0674	-.0606	-.0510	-.0488	-.0423
.300	-.0640	-.0648	-.0641	-.0702	-.0663	-.0606	-.0532	-.0520	-.0412
.367	-.0599	-.0584	-.0587	-.0616	-.0598	-.0595	-.0543	-.0478	-.0455
.433	-.0618	-.0670	-.0685	-.0712	-.0696	-.0680	-.0620	-.0616	-.0576
.500	-.0673	-.0670	-.0696	-.0734	-.0751	-.0734	-.0718	-.0680	-.0674
.567	-.0585	-.0584	-.0598	-.0638	-.0663	-.0659	-.0641	-.0627	-.0620
.633	-.0673	-.0680	-.0707	-.0734	-.0762	-.0798	-.0795	-.0798	-.0773
.700	-.0640	-.0627	-.0663	-.0744	-.0806	-.0830	-.0849	-.0872	-.0860
.733	-.0411	-.0414	-.0466	-.0499	-.0587	-.0606	-.0652	-.0638	-.0641
.767	-.0083	-.0094	-.0138	-.0158	-.0247	-.0307	-.0357	-.0371	-.0390
.800	.0288	.0301	.0267	.0226	.0158	.0141	.0070	.0055	.0037
.833	.0561	.0567	.0552	.0525	.0475	.0471	.0420	.0365	.0366
.867	.0802	.0823	.0803	.0727	.0782	.0749	.0705	.0695	.0694
.900	.1140	.1143	.1154	.1154	.1154	.1186	.1176	.1175	.1176
.933	.1140	.1143	.1121	.1122	.1132	.1133	.1154	.1165	.1165

$\alpha = 4.1^\circ$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.2336	0.2251	0.2035	0.1953	0.1566	0.1473	0.1282	0.1271	0.1194
.033	.1769	.1750	.1511	.1377	.1052	.0972	.0779	.0802	.0747
.067	.1007	.1047	.0845	.0674	.0452	.0354	.0245	.0322	.0266
.100	.0734	.0780	.0583	.0407	.0190	.0077	.0021	.0013	-.0061
.133	.0462	.0322	.0146	.0141	-.0061	-.0104	-.0159	-.0179	-.0192
.167	-.0017	-.0072	-.0247	-.0360	-.0552	-.0573	-.0629	-.0573	-.0585
.233	-.0344	-.0339	-.0487	-.0605	-.0749	-.0744	-.0760	-.0691	-.0716
.300	-.0399	-.0403	-.0531	-.0637	-.0738	-.0691	-.0683	-.0605	-.0596
.367	-.0437	-.0382	-.0509	-.0573	-.0672	-.0669	-.0640	-.0563	-.0552
.433	-.0497	-.0552	-.0662	-.0637	-.0771	-.0701	-.0662	-.0605	-.0596
.500	-.0617	-.0616	-.0716	-.0765	-.0803	-.0744	-.0683	-.0616	-.0618
.567	-.0606	-.0584	-.0672	-.0691	-.0705	-.0637	-.0574	-.0509	-.0509
.633	-.0802	-.0765	-.0836	-.0808	-.0803	-.0723	-.0640	-.0595	-.0585
.700	-.0911	-.0851	-.0902	-.0893	-.0825	-.0691	-.0618	-.0541	-.0531
.733	-.0828	-.0712	-.0727	-.0669	-.0585	-.0446	-.0367	-.0296	-.0279
.767	-.0464	-.0446	-.0432	-.0339	-.0214	-.0094	-.0039	-.0002	.0015
.800	-.0050	-.0009	.0015	.0077	.0201	.0311	.0321	.0375	.0376
.833	.0288	.0333	.0365	.0428	.0528	.0610	.0594	.0610	.0605
.867	.0603	.0663	.0714	.0791	.0812	.0834	.0801	.0823	.0812
.900	.1170	.1185	.1194	.1185	.1162	.1175	.1129	.1143	.1118
.933	.1279	.1271	.1205	.1175	.1118	.1121	.1107	.1143	.1172

$\alpha = -0.1^\circ$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.1620	0.1636	0.1635	0.1732	0.1711	0.1785	0.1766	0.1817	0.1766
.033	.1151	.1198	.1164	.1219	.1197	.1219	.1197	.1273	.1230
.067	.0485	.0579	.0562	.0589	.0584	.0611	.0584	.0675	.0661
.100	.0277	.0365	.0344	.0333	.0322	.0290	.0313	.0301	.0278
.133	.0037	-.0041	-.0072	.0077	.0059	.0130	.0114	.0098	-.0103
.167	-.0421	-.0414	-.0444	-.0404	-.0433	-.0361	-.0379	-.0318	-.0335
.233	-.0629	-.0585	-.0608	-.0606	-.0630	-.0574	-.0597	-.0553	-.0575
.300	-.0596	-.0574	-.0597	-.0606	-.0630	-.0564	-.0586	-.0521	-.0532
.367	-.0546	-.0521	-.0543	-.0532	-.0554	-.0542	-.0575	-.0510	-.0532
.433	-.0618	-.0638	-.0663	-.0638	-.0663	-.0617	-.0641	-.0606	-.0630
.500	-.0683	-.0660	-.0685	-.0671	-.0707	-.0671	-.0707	-.0660	-.0696
.567	-.0618	-.0585	-.0619	-.0596	-.0619	-.0585	-.0619	-.0585	-.0619
.633	-.0749	-.0713	-.0740	-.0703	-.0729	-.0713	-.0751	-.0724	-.0751
.700	-.0749	-.0703	-.0740	-.0745	-.0772	-.0735	-.0772	-.0745	-.0783
.733	-.0520	-.0510	-.0543	-.0510	-.0554	-.0510	-.0554	-.0510	-.0543
.767	-.0203	-.0190	-.0225	-.0190	-.0225	-.0211	-.0247	-.0222	-.0247
.800	.0190	.0226	.0190	.0194	.0158	.0205	.0179	.0205	.0168
.833	.0496	.0525	.0497	.0504	.0475	.0536	.0497	.0504	.0464
.867	.0779	.0814	.0781	.0792	.0770	.0792	.0759	.0803	.0770
.900	.1172	.1198	.1175	.1177	.1153	.1198	.1164	.1209	.1175
.933	.1151	.1177	.1142	.1177	.1142	.1177	.1142	.1177	.1131

$\alpha = 6.2^\circ$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.2618	0.2491	0.2054	0.1797	0.1260	0.1113	0.0886	0.0942	0.0831
.033	.2014	.1947	.1547	.1220	.0732	.0611	.0412	.0504	.0434
.067	.1234	.1220	.0809	.0547	.0115	.0045	-.0073	.0077	-.0007
.100	.0916	.0921	.0544	.0269	-.0117	-.0222	-.0290	-.0222	-.0249
.133	.0608	.0451	.0071	-.0019	-.0381	-.0393	-.0458	-.0393	-.0436
.167	.0114	.0045	-.0304	-.0521	-.0855	-.0874	-.0888	-.0767	-.0800
.233	-.0259	-.0276	-.0580	-.0788	-.1042	-.1013	-.0976	-.0841	-.0866
.300	-.0347	-.0382	-.0657	-.0853	-.1042	-.0949	-.0877	-.0714	-.0734
.367	-.0418	-.0382	-.0646	-.0788	-.0965	-.0906	-.0811	-.0665	-.0657
.433	-.0501	-.0575	-.0822	-.0927	-.1053	-.0927	-.0822	-.0692	-.0690
.500	-.0633	-.0671	-.0899	-.0991	-.1086	-.0959	-.0822	-.0692	-.0690
.567	-.0655	-.0660	-.0866	-.0917	-.0976	-.0821	-.0690	-.0575	-.0569
.633	-.0874	-.0874	-.1042	-.1056	-.1053	-.0874	-.0734	-.0660	-.0635
.700	-.1028	-.0991	-.1130	-.1141	-.1053	-.0778	-.0668	-.0596	-.0580
.733	-.0863	-.0885	-.0987	-.0906	-.0778	-.0489	-.0436	-.0361	-.0315
.767	-.0633	-.0650	-.0690	-.0553	-.0337	-.0126	-.0139	-.0073	-.0073
.800	-.0248	-.0190	-.0227	-.0105	.0104	.0248	.0214	.0248	.0247
.833	.0114	.0152	.0137	.0312	.0434	.0515	.0445	.0451	.0445
.867	.0411	.0494	.0533	.0697	.0688	.0739	.0643	.0665	.0621
.900	.1026	.1060	.1073	.1124	.1062	.1103	.1029	.1028	.0974
.933	.1333	.1316	.1172	.1167	.1062	.1092	.1283	.1167	.1205

$\alpha = 2.0^\circ$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.1919	0.1925	0.1816	0.1840	0.1662	0.1637	0.1520	0.1509	0.1432
.033	.1394	.1444	.1322	.1306	.1135	.1081	.0971	.0996	.1157
.067	.0694	.0771	.0696	.0622	.0509	.0494	.0422	.0451	.0400
.100	.0442	.0536	.0466	.0365	.0279	.0194	.0150	.0120	.0059
.133	.0201	.0098	.0026	.0109	.0015	.0013	-.0029	-.0073	-.0094
.167	-.0269	-.0286	-.0336	-.0393	-.0468	-.0479	-.0512	-.0489	-.0512
.233	-.0543	-.0511	-.0556	-.0618	-.0665	-.0671	-.0676	-.0671	-.0687
.300	-.0543	-.0532	-.0556	-.0628	-.0676	-.0650	-.0654	-.0618	-.0632
.367	-.0560	-.0500	-.0523	-.0564	-.0599	-.0618	-.0610	-.0575	-.0567
.433	-.0608	-.0639	-.0654	-.0682	-.0698	-.0671	-.0676	-.0660	-.0654
.500	-.0685	-.0692	-.0709	-.0724	-.0731	-.0714	-.0709	-.0682	-.0676
.567	-.0652	-.0628	-.0643	-.0650	-.0643	-.0628	-.0599	-.0585	-.0578
.633	-.0805	-.0788	-.0786	-.0767	-.0753	-.0735	-.0709	-.0703	-.0676
.700	-.0871	-.0831	-.0819	-.0831	-.0797	-.0735	-.0687	-.0682	-.0665
.733	-.0652	-.0660	-.0643	-.0618	-.0588	-.0511	-.0457	-.0425	-.0413
.767	-.0357	-.0361	-.0325	-.0276	-.0226	-.0190	-.0149	-.0115	-.0105
.800	.0037	.0077	.0103	.0120	.0158	.0226	.0268	.0280	.0290
.833	.0376	.0397	.0411	.0440	.0477	.0536	.0553	.0547	.0542
.867	.0672	.0718	.0729	.0750	.0762	.0782	.0784	.0814	.0795
.900	.1164	.1177	.1179	.1156	.1146	.1167	.1157	.1156	.1135
.933	.1175	.1177	.1157	.1156	.1135	.1124	.1113	.1124	.1124

$\alpha = 8.4^\circ$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.3071	0.2797	0.2169	0.1672	0.0982	0.0730	0.0620	0.0655	0.0620
.033	.2413	.2218	.1641	.1084	.0477	.0227	.0180	.0248	.0268
.067	.1603	.1437	.0883	.0377	-.0127	-.0298	-.0259	-.0126	-.0094
.100	.1264	.1126	.0609	.0088	-.0358	-.0544	-.0444	-.0394	-.0336
.133	.0935	.0634	.0114	-.0201	-.0611	-.0704	-.0589	-.0544	-.0479
.167	.0431	.0216	-.0259	-.0694	-.1083	-.1165	-.1006	-.0897	-.0820
.233	.0004	-.0137	-.0567	-.0983	-.1259	-.1283	-.1050	-.0919	-.0842
.300	-.0116	-.0287	-.0666	-.1069	-.1248	-.1197	-.0897	-.0769	-.0677
.367	-.0232	-.0319	-.0677	-.1004	-.1182	-.1133	-.0809	-.0726	-.0578
.433	-.0335	-.0522	-.0853	-.1154	-.1259	-.1133	-.0798	-.0747	-.0611
.500	-.0488	-.0640	-.0951	-.1218	-.1281	-.1143	-.0776	-.0758	-.0611
.567	-.0532	-.0662	-.0929	-.1154	-.1138	-.0961	-.0666	-.0683	-.0479
.633	-.0773	-.0897	-.1127	-.1293	-.1193	-.0951	-.0699	-.0769	-.0556
.700	-.0959	-.1047	-.1226	-.1379	-.1127	-.0790	-.0622	-.0737	-.0512
.733	-.0839	-.0983	-.1105	-.1122	-.0787	-.0490	-.0402	-.0501	-.0259
.767	-.0642	-.0769	-.0809	-.0747	-.0292	-.0148	-.0105	-.0244	-.0094
.800	-.0247	-.0319	-.0336	-.0266	.0180	.0206	.0224	.0088	.0191
.833	.0103	.0045	.0070	.0206	.0477	.0495	.0466	.0323	.0389
.867	.0399	.0377	.0499	.0666	.0740	.0719	.0686	.0591	.0587
.900	.1067	.1019	.1136	.1148	.1158	.1137	.1114	.1073	.1048
.933	.1537	.1426	.1301	.1191	.1158	.1137	.1147	.1191	.1279

TABLE I.- Continued

PRESSURE COEFFICIENTS OF A 120-INCH FINENESS-RATIO-12 BODY OF REVOLUTION IN THE LANGLEY 16-FOOT TRANSONIC TUNNEL

(d) M = 0.95.

α = -2.3°

x/l	A	B	C	D	E	F	G	H	I
0.017	0.1474	0.1449	0.1550	0.1675	0.1877	0.1982	0.2184	0.2198	0.2297
.033	.1056	.1029	.1141	.1162	.1325	.1388	.1571	.1603	.1703
.067	.0453	.0424	.0528	.0496	.0661	.0711	.0896	.0875	.0998
.100	.0198	.0209	.0323	.0281	.0425	.0414	.0548	.0486	.0599
.133	-.0037	-.0201	-.0106	-.0027	.0129	.0168	.0344	.0271	.0374
.167	-.0557	-.0652	-.0556	-.0590	-.0444	-.0416	-.0260	-.0221	-.0106
.233	-.0751	-.0806	-.0710	-.0806	-.0658	-.0683	-.0526	-.0560	-.0454
.300	-.0649	-.0724	-.0638	-.0775	-.0658	-.0672	-.0536	-.0611	-.0444
.367	-.0622	-.0621	-.0556	-.0672	-.0566	-.0631	-.0515	-.0508	-.0413
.433	-.0639	-.0744	-.0679	-.0795	-.0710	-.0744	-.0628	-.0693	-.0587
.500	-.0680	-.0765	-.0699	-.0826	-.0751	-.0826	-.0720	-.0765	-.0669
.567	-.0578	-.0642	-.0597	-.0703	-.0638	-.0713	-.0607	-.0683	-.0597
.633	-.0721	-.0795	-.0740	-.0857	-.0802	-.0898	-.0812	-.0898	-.0812
.700	-.0690	-.0765	-.0720	-.0898	-.0873	-.0980	-.0904	-.1000	-.0914
.733	-.0394	-.0488	-.0444	-.0590	-.0566	-.0683	-.0628	-.0703	-.0648
.767	-.0016	-.0109	-.0065	-.0191	-.0188	-.0344	-.0311	-.0396	-.0331
.800	.0382	.0312	.0364	.0240	.0252	.0137	.0170	.0076	.0139
.833	.0668	.0588	.0650	.0558	.0589	.0496	.0528	.0404	.0466
.867	.0913	.0865	.0937	.0824	.0885	.0793	.0834	.0732	.0793
.900	.1250	.1193	.1264	.1203	.1274	.1244	.1305	.1234	.1315
.933	.1250	.1173	.1223	.1162	.1233	.1183	.1284	.1214	.1284

α = 4.1°

x/l	A	B	C	D	E	F	G	H	I
0.017	0.2425	0.2348	0.2126	0.2041	0.1737	0.1581	0.1460	0.1397	0.1368
.033	.1863	.1826	.1624	.1448	.1204	.1049	.0938	.0896	.0887
.067	.1138	.1080	.0917	.0712	.0508	.0415	.0334	.0384	.0365
.100	.0760	.0834	.0672	.0425	.0262	.0108	.0057	.0037	.0037
.133	.0484	.0313	.0160	.0139	-.0025	-.0086	-.0127	-.0157	-.0168
.167	-.0047	-.0137	-.0291	-.0434	-.0588	-.0648	-.0690	-.0638	-.0639
.233	-.0425	-.0434	-.0567	-.0710	-.0823	-.0843	-.0844	-.0781	-.0782
.300	-.0445	-.0485	-.0598	-.0730	-.0803	-.0771	-.0741	-.0669	-.0659
.367	-.0418	-.0444	-.0537	-.0638	-.0700	-.0720	-.0680	-.0607	-.0598
.433	-.0568	-.0638	-.0731	-.0802	-.0844	-.0781	-.0741	-.0679	-.0659
.500	-.0691	-.0720	-.0793	-.0863	-.0885	-.0832	-.0762	-.0689	-.0670
.567	-.0660	-.0658	-.0721	-.0761	-.0752	-.0679	-.0618	-.0566	-.0557
.633	-.0895	-.0904	-.0946	-.0935	-.0905	-.0822	-.0741	-.0679	-.0680
.700	-.1017	-.0996	-.1028	-.1027	-.0946	-.0802	-.0711	-.0648	-.0639
.733	-.0772	-.0791	-.0793	-.0720	-.0639	-.0485	-.0403	-.0352	-.0332
.767	-.0466	-.0474	-.0424	-.0331	-.0209	-.0096	-.0045	-.0004	.0006
.800	-.0027	.0016	.0047	.0129	.0231	.0333	.0354	.0395	.0405
.833	.0341	.0374	.0405	.0497	.0569	.0650	.0641	.0630	.0641
.867	.0668	.0722	.0774	.0834	.0856	.0865	.0856	.0865	.0856
.900	.1230	.1243	.1255	.1243	.1225	.1223	.1184	.1192	.1184
.933	.1342	.1305	.1245	.1223	.1173	.1151	.1153	.1202	.1245

α = -0.2°

x/l	A	B	C	D	E	F	G	H	I
0.017	0.1702	0.1735	0.1771	0.1837	0.1874	0.1909	0.1935	0.1930	0.1935
.033	.1242	.1284	.1114	.1315	.1340	.1315	.1340	.1356	.1370
.067	.0587	.0629	.0662	.0629	.0662	.0660	.0692	.0721	.0734
.100	.0311	.0383	.0405	.0352	.0384	.0311	.0343	.0311	.0323
.133	.0065	-.0037	-.0006	.0086	.0117	.0137	.0158	.0096	.0107
.167	-.0466	-.0498	-.0468	-.0488	-.0438	-.0447	-.0417	-.0426	-.0397
.233	-.0712	-.0692	-.0664	-.0713	-.0664	-.0692	-.0653	-.0672	-.0643
.300	-.0651	-.0672	-.0633	-.0703	-.0664	-.0651	-.0633	-.0610	-.0602
.367	-.0596	-.0590	-.0561	-.0590	-.0571	-.0610	-.0592	-.0569	-.0540
.433	-.0691	-.0733	-.0715	-.0754	-.0736	-.0713	-.0684	-.0713	-.0684
.500	-.0753	-.0764	-.0746	-.0795	-.0766	-.0774	-.0756	-.0774	-.0746
.567	-.0671	-.0672	-.0643	-.0682	-.0653	-.0672	-.0643	-.0672	-.0643
.633	-.0845	-.0856	-.0828	-.0836	-.0807	-.0846	-.0828	-.0856	-.0838
.700	-.0865	-.0866	-.0838	-.0907	-.0890	-.0897	-.0869	-.0918	-.0879
.733	-.0579	-.0610	-.0592	-.0610	-.0592	-.0610	-.0581	-.0600	-.0571
.767	-.0200	-.0231	-.0212	-.0221	-.0212	-.0252	-.0232	-.0262	-.0232
.800	.0219	.0219	.0240	.0199	.0220	.0209	.0220	.0209	.0220
.833	.0546	.0547	.0559	.0516	.0538	.0547	.0569	.0516	.0538
.867	.0833	.0834	.0867	.0823	.0836	.0823	.0857	.0823	.0836
.900	.1242	.1233	.1247	.1213	.1237	.1243	.1268	.1243	.1268
.933	.1211	.1192	.1206	.1202	.1227	.1192	.1216	.1182	.1206

α = 6.2°

x/l	A	B	C	D	E	F	G	H	I
0.017	0.2818	0.2617	0.2244	0.1921	0.1498	0.1276	0.1150	0.1112	0.1110
.033	.2206	.2074	.1733	.1327	.0966	.0784	.0680	.0651	.0660
.067	.1431	.1296	.0987	.0610	.0313	.0160	.0129	.0190	.0210
.100	.1023	.1030	.0721	.0313	.0057	-.0127	-.0147	-.0127	-.0106
.133	.0738	.0487	.0210	.0027	-.0239	-.0311	-.0311	-.0311	-.0290
.167	.0188	.0037	-.0239	-.0557	-.0791	-.0874	-.0862	-.0782	-.0750
.233	-.0241	-.0321	-.0556	-.0844	-.1026	-.1038	-.0954	-.0864	-.0842
.300	-.0322	-.0414	-.0627	-.0895	-.0995	-.0946	-.0832	-.0710	-.0678
.367	-.0309	-.0383	-.0576	-.0803	-.0903	-.0885	-.0750	-.0639	-.0607
.433	-.0485	-.0608	-.0791	-.0977	-.1026	-.0925	-.0770	-.0690	-.0648
.500	-.0618	-.0710	-.0872	-.1048	-.1077	-.0966	-.0791	-.0690	-.0658
.567	-.0618	-.0680	-.0811	-.0936	-.0924	-.0782	-.0627	-.0577	-.0525
.633	-.0893	-.0946	-.1056	-.1110	-.1056	-.0885	-.0719	-.0690	-.0638
.700	-.1046	-.1069	-.1159	-.1212	-.1077	-.0813	-.0678	-.0639	-.0586
.733	-.0822	-.0905	-.0944	-.0895	-.0709	-.0455	-.0382	-.0352	-.0280
.767	-.0567	-.0608	-.0586	-.0475	-.0219	-.0066	-.0035	-.0035	.0027
.800	-.0128	-.0127	-.0086	.0016	.0251	.0324	.0333	.0324	.0374
.833	.0239	.0242	.0313	.0436	.0578	.0600	.0599	.0538	.0619
.867	.0565	.0600	.0701	.0805	.0834	.0825	.0783	.0753	.0772
.900	.1176	.1183	.1253	.1224	.1212	.1204	.1191	.1122	.1130
.933	.1492	.1419	.1334	.1255	.1222	.1204	.1232	.1296	.1385

α = 2.0°

x/l	A	B	C	D	E	F	G	H	I
0.017	0.2040	0.2081	0.1962	0.2000	0.1891	0.1805	0.1706	0.1683	0.1645
.033	.1528	.1601	.1501	.1448	.1338	.1223	.1143	.1151	.1112
.067	.0843	.0896	.0805	.0742	.0631	.0609	.0528	.0568	.0528
.100	.0526	.0620	.0549	.0456	.0354	.0282	.0221	.0211	.0180
.133	.0270	.0170	.0098	.0180	.0088	.0098	.0047	.0006	-.0014
.167	-.0282	-.0280	-.0363	-.0382	-.0465	-.0474	-.0547	-.0485	-.0506
.233	-.0589	-.0536	-.0588	-.0638	-.0701	-.0689	-.0731	-.0699	-.0731
.300	-.0579	-.0536	-.0598	-.0638	-.0690	-.0638	-.0670	-.0605	-.0629
.367	-.0513	-.0485	-.0526	-.0556	-.0608	-.0597	-.0629	-.0556	-.0578
.433	-.0651	-.0658	-.0711	-.0699	-.0741	-.0679	-.0721	-.0658	-.0690
.500	-.0743	-.0709	-.0752	-.0750	-.0772	-.0740	-.0752	-.0699	-.0721
.567	-.0681	-.0628	-.0670	-.0648	-.0670	-.0617	-.0629	-.0577	-.0608
.633	-.0896	-.0842	-.0875	-.0812	-.0834	-.0771	-.0772	-.0730	-.0762
.700	-.0968	-.0904	-.0916	-.0893	-.0895	-.0801	-.0782	-.0730	-.0752
.733	-.0691	-.0669	-.0670	-.0607	-.0588	-.0495	-.0485	-.0423	-.0444
.767	-.0344	-.0311	-.0311	-.0229	-.0209	-.0137	-.0116	-.0065	-.0086
.800	.0096	.0159	.0150	.0200	.0231	.0313	.0313	.0364	.0344
.833	.0444	.0497	.0498	.0548	.0559	.0640	.0641	.0650	.0621
.867	.0761	.0824	.0825	.0855	.0846	.0896	.0887	.0916	.0887
.900	.1252	.1284	.1256	.1274	.1235	.1284	.1256	.1264	.1235
.933	.1252	.1274	.1225	.1243	.1215	.1223	.1194	.1223	.1194

α = 8.4°

x/l	A	B	C	D	E	F	G	H	I
0.017	0.3208	0.2908	0.2329	0.1759	0.1183	0.0887	0.0804	0.0825	0.0845
.033	.2565	.2323	.1787	.1143	.0651	.0374	.0364	.0404	.0446
.067	.1739	.1492	.1019	.0425	-.0004	-.0181	-.0147	-.0006	.0027
.100	.1351	.1143	.0712	.0127	-.0260	-.0458	-.0383	-.0294	-.0250
.133	.1014	.0640	.0180	-.0181	-.0546	-.0622	-.0526	-.0468	-.0424
.167	.0443	.0189	-.0260	-.0766	-.1099	-.1176	-.1068	-.0909	-.0853
.233	-.0037	-.0201	-.0608	-.1073	-.1334	-.1320	-.1120	-.0950	-.0894
.300	-.0159	-.0345	-.0710	-.1145	-.1304	-.1176	-.0935	-.0776	-.0690
.367	-.0300	-.0335	-.0679	-.1053	-.1201	-.1115	-.0853	-.0704	-.0628
.433	-.0373	-.0581	-.0915	-.1238	-.1324	-.1125	-.0843	-.0745	-.0649
.500	-.0537	-.0704	-.0997	-.1310	-.1365	-.1145	-.0843	-.0786	-.0669
.567	-.0578	-.0704	-.0976	-.1197	-.1191	-.0909	-.0700	-.0683	-.0526
.633	-.0873	-.0991	-.1222	-.1361	-.1488	-.0930	-.0782	-.0817	-.0639
.700	-.1057	-.1135	-.1334	-.1463	-.1242	-.0817	-.0731	-.0786	-.0608
.733	-.0873	-.1012	-.1140	-.1115	-.0792	-.0478	-.0434	-.0499	-.0321
.767	-.0659	-.0745	-.0802	-.0653	-.0260	-.0109	-.0096	-.0211	-.0086
.800	-.0220	-.0252	-.0260	-.0119	.0231	.0281	.0272	.0138	.0231
.833	.0167	.0127	.0160	.0363	.0538	.0569	.0538	.0394	.0446
.867	.0494	.0497	.0600	.0794	.0825	.0794	.0763	.0661	.0661
.900	.1157	.1154	.1255	.1266	.1265	.1225	.1214	.1174	.0948
.933	.1627	.1513	.1398	.1297	.1255	.1225	.1265	.1318	.1377

NACA

TABLE I.- Continued

PRESSURE COEFFICIENTS OF A 120-INCH FINENESS-RATIO-12 BODY OF

REVOLUTION IN THE LANGLEY 16-FOOT TRANSONIC TUNNEL

(e) M = 0.99.

α = -2.3°									
x/l	A	B	C	D	E	F	G	H	I
0.017	0.1657	0.1612	0.1662	0.1808	0.1936	0.2112	0.2240	0.2367	0.2387
.033	.1178	.1211	.1241	.1338	.1437	.1563	.1672	.1789	.1789
.067	.0524	.0574	.0604	.0662	.0731	.0878	.0976	.1064	.1064
.100	.0231	.0339	.0339	.0378	.0447	.0515	.0604	.0633	.0653
.133	-.0004	-.0092	-.0092	.0084	.0143	.0300	.0378	.0398	.0388
.167	-.0707	-.0709	-.0710	-.0631	-.0572	-.0445	-.0367	-.0239	-.0249
.233	-.0971	-.0915	-.0925	-.0905	-.0876	-.0778	-.0729	-.0660	-.0661
.300	-.0961	-.0944	-.0964	-.1003	-.1004	-.0895	-.0857	-.0827	-.0896
.367	-.0596	-.0553	-.0572	-.0582	-.0572	-.0543	-.0514	-.0415	-.0416
.433	-.0737	-.0758	-.0788	-.0788	-.0808	-.0719	-.0710	-.0650	-.0680
.500	-.0727	-.0709	-.0749	-.0768	-.0788	-.0739	-.0719	-.0650	-.0651
.567	-.0746	-.0719	-.0768	-.0817	-.0876	-.0866	-.0886	-.0905	-.0915
.633	-.0991	-.0935	-.0994	-.0993	-.1043	-.1042	-.1062	-.1062	-.1072
.700	-.0961	-.0925	-.0994	-.1052	-.1141	-.1130	-.1170	-.1189	-.1219
.733	-.0473	-.0484	-.0533	-.0562	-.0670	-.0699	-.0768	-.0778	-.0788
.767	.0035	.0006	-.0043	-.0063	-.0141	-.0200	-.0278	-.0288	-.0308
.800	.0436	.0457	.0427	.0388	.0329	.0310	.0241	.0221	.0202
.833	.0739	.0750	.0721	.0701	.0662	.0672	.0613	.0564	.0535
.867	.0983	.1025	.1005	.0995	.0966	.0976	.0917	.0897	.0878
.900	.1335	.1358	.1348	.1358	.1358	.1407	.1397	.1407	.1388
.933	.1325	.1319	.1280	.1299	.1299	.1388	.1339	.1358	.1348

α = 4.1°									
x/l	A	B	C	D	E	F	G	H	I
0.017	0.2576	0.2511	0.2315	0.2159	0.1924	0.1689	0.1552	0.1542	0.1523
.033	.1989	.1993	.1826	.1621	.1386	.1180	.1102	.1063	.1053
.067	.1208	.1210	.1063	.0838	.0642	.0515	.0446	.0495	.0485
.100	.0846	.0887	.0750	.0525	.0358	.0202	.0143	.0123	.0133
.133	.0553	.0388	.0250	-.0221	.0055	-.0004	-.0043	-.0102	-.0102
.167	-.0111	-.0190	-.0317	-.0493	-.0659	-.0767	-.0816	-.0787	-.0777
.233	-.0571	-.0552	-.0669	-.0836	-.0953	-.1012	-.1012	-.0983	-.0963
.300	-.0688	-.0728	-.0816	-.1002	-.1070	-.1051	-.1022	-.1002	-.0982
.367	-.0319	-.0376	-.0464	-.0572	-.0640	-.0689	-.0659	-.0620	-.0591
.433	-.0571	-.0660	-.0738	-.0826	-.0875	-.0855	-.0796	-.0767	-.0738
.500	-.0620	-.0650	-.0708	-.0816	-.0855	-.0846	-.0767	-.0718	-.0689
.567	-.0962	-.0963	-.0992	-.1051	-.1002	-.0943	-.0816	-.0806	-.0748
.633	-.1098	-.1051	-.1100	-.1100	-.1090	-.1022	-.0924	-.0914	-.0885
.700	-.1303	-.1286	-.1286	-.1335	-.1237	-.1129	-.0982	-.0973	-.0914
.733	-.0991	-.1032	-.0953	-.0885	-.0699	-.0581	-.0464	-.0425	-.0395
.767	-.0326	-.0376	-.0346	-.0258	-.0141	-.0043	.0025	.0045	.0065
.800	.0094	.0114	.0153	.0211	.0329	.0427	.0466	.0476	.0505
.833	.0455	.0476	.0524	.0583	.0681	.0740	.0759	.0720	.0750
.867	.0797	.0818	.0877	.0936	.0975	.0975	.0975	.0965	.0975
.900	.1354	.1347	.1376	.1347	.1337	.1327	.1297	.1288	.1297
.933	.1442	.1405	.1366	.1307	.1278	.1249	.1258	.1268	.1337

α = -0.2°									
x/l	A	B	C	D	E	F	G	H	I
0.017	0.1897	0.1878	0.1880	0.1976	0.1978	0.2035	0.2027	0.2104	0.2086
.033	.1377	.1447	.1448	.1476	.1487	.1496	.1487	.1555	.1536
.067	.0672	.0761	.0751	.0761	.0771	.0829	.0820	.0888	.0869
.100	.0368	.0486	.0487	.0476	.0467	.0476	.0457	.0486	.0467
.133	.0123	.0045	.0035	.0182	.0182	.0251	.0241	.0222	.0212
.167	-.0562	-.0553	-.0553	-.0524	-.0524	-.0494	-.0494	-.0416	-.0436
.233	-.0895	-.0827	-.0838	-.0837	-.0848	-.0808	-.0818	-.0778	-.0799
.300	-.0935	-.0906	-.0916	-.0955	-.0965	-.0906	-.0916	-.0916	-.0936
.367	-.0560	-.0524	-.0534	-.0533	-.0553	-.0543	-.0563	-.0504	-.0524
.433	-.0729	-.0759	-.0759	-.0759	-.0769	-.0720	-.0730	-.0720	-.0740
.500	-.0729	-.0720	-.0740	-.0739	-.0759	-.0720	-.0740	-.0700	-.0720
.567	-.0817	-.0788	-.0789	-.0798	-.0799	-.0808	-.0799	-.0837	-.0838
.633	-.1082	-.1014	-.1034	-.1004	-.1024	-.1014	-.1034	-.1053	-.1063
.700	-.1082	-.1033	-.1054	-.1073	-.1093	-.1073	-.1093	-.1112	-.1132
.733	-.0611	-.0602	-.0622	-.0622	-.0642	-.0622	-.0632	-.0602	-.0612
.767	-.0102	-.0131	-.0151	-.0131	-.0151	-.0151	-.0180	-.0171	-.0190
.800	-.0329	.0398	.0339	.0329	.0310	.0349	.0320	.0339	.0320
.833	.0652	.0682	.0663	.0663	.0644	.0692	.0673	.0653	.0634
.867	.0956	.0986	.0967	.0967	.0948	.0967	.0957	.0957	.0948
.900	.1358	.1378	.1369	.1359	.1350	.1388	.1369	.1388	.1369
.933	.1309	.1320	.1301	.1329	.1320	.1329	.1320	.1310	.1301

α = 6.2°									
x/l	A	B	C	D	E	F	G	H	I
0.017	0.2949	0.2810	0.2474	0.2163	0.1759	0.1398	0.1289	0.1261	0.1269
.033	.2323	.2251	.1945	.1555	.1210	.0918	.0828	.0810	.0848
.067	.1502	.1427	.1161	.0741	.0456	.0251	.0231	.0280	.0319
.100	.1091	.1084	.0838	.0437	.0172	-.0063	-.0053	-.0063	-.0014
.133	.0798	.0565	.0319	.0124	-.0121	-.0249	-.0229	-.0269	-.0210
.167	.0153	.0006	-.0229	-.0573	-.0826	-.1004	-.0993	-.0955	-.0895
.233	-.0376	-.0416	-.0601	-.0935	-.1110	-.1210	-.1130	-.1073	-.1013
.300	-.0512	-.0612	-.0787	-.1122	-.1238	-.1229	-.1101	-.1043	-.0973
.367	-.0241	-.0327	-.0484	-.0729	-.0836	-.0886	-.0768	-.0690	-.0611
.433	-.0493	-.0631	-.0768	-.1004	-.1061	-.1033	-.0866	-.0808	-.0729
.500	-.0552	-.0631	-.0748	-.0975	-.1042	-.1033	-.0836	-.0759	-.0680
.567	-.0933	-.0975	-.1071	-.1239	-.1140	-.1053	-.0758	-.0788	-.0640
.633	-.1080	-.1082	-.1199	-.1288	-.1267	-.1131	-.0934	-.0935	-.0856
.700	-.1314	-.1357	-.1365	-.1514	-.1306	-.1131	-.0885	-.0945	-.0817
.733	-.1070	-.1308	-.1071	-.1092	-.0738	-.0563	-.0425	-.0445	-.0307
.767	-.0454	-.0494	-.0484	-.0406	-.0161	-.0033	.0025	-.0024	.0065
.800	-.0023	-.0024	.0016	.0084	.0329	.0388	.0427	.0378	.0476
.833	.0358	.0339	.0407	.0496	.0672	.0692	.0701	.0604	.0691
.867	.0671	.0673	.0789	.0878	.0946	.0918	.0917	.0829	.0877
.900	.1297	.1271	.1357	.1310	.1328	.1300	.1298	.1202	.1240
.933	.1600	.1516	.1465	.1359	.1338	.1290	.1347	.1339	.1485

α = 2.0°									
x/l	A	B	C	D	E	F	G	H	I
0.017	0.2253	0.2192	0.2119	0.2094	0.1973	0.1898	0.1816	0.1810	0.1796
.033	.1696	.1722	.1659	.1594	.1493	.1369	.1297	.1300	.1278
.067	.0934	.0976	.0926	.0829	.0750	.0712	.0642	.0682	.0661
.100	.0602	.0682	.0632	.0525	.0456	.0369	.0319	.0290	.0290
.133	.0338	.0222	.0162	.0241	.0162	.0163	.0114	.0055	.0045
.167	-.0346	-.0367	-.0434	-.0465	-.0552	-.0582	-.0650	-.0612	-.0630
.233	-.0747	-.0700	-.0738	-.0808	-.0855	-.0886	-.0894	-.0896	-.0894
.300	-.0825	-.0827	-.0855	-.0955	-.0973	-.0955	-.0943	-.0975	-.0963
.367	-.0476	-.0455	-.0464	-.0533	-.0532	-.0602	-.0581	-.0573	-.0542
.433	-.0668	-.0710	-.0728	-.0769	-.0777	-.0759	-.0748	-.0759	-.0738
.500	-.0668	-.0690	-.0689	-.0749	-.0748	-.0759	-.0728	-.0720	-.0699
.567	-.0971	-.0847	-.0924	-.0837	-.0924	-.0778	-.0855	-.0739	-.0855
.633	-.1079	-.1073	-.1031	-.1053	-.0992	-.1014	-.0943	-.0994	-.0943
.700	-.1264	-.1112	-.1207	-.1122	-.1178	-.1024	-.1090	-.0975	-.1080
.733	-.0805	-.0749	-.0787	-.0690	-.0659	-.0573	-.0562	-.0484	-.0503
.767	-.0219	-.0269	-.0229	-.0190	-.0121	-.0102	-.0053	-.0043	-.0023
.800	.0221	.0241	.0270	.0280	.0329	.0388	.0427	.0447	.0456
.833	.0573	.0584	.0603	.0633	.0671	.0722	.0750	.0722	.0740
.867	.0895	.0918	.0935	.0947	.0975	.0996	.1004	.0996	.1004
.900	.1393	.1388	.1386	.1369	.1366	.1378	.1366	.1349	.1356
.933	.1364	.1349	.1337	.1329	.1307	.1300	.1297	.1290	.1297

α = 8.4°									
x/l	A	B	C	D	E	F	G	H	I
0.017	0.3416	0.3177	0.2609	0.2120	0.1493	0.1102	0.0975	0.1033	0.1033
.033	.2732	.2590	.2070	.1493	.0945	.0632	.0554	.0622	.0661
.067	.1853	.1719	.1249	.0642	.0172	-.0023	-.0004	.0133	.0172
.100	.1442	.1356	.0896	.0339	-.0092	-.0307	-.0268	-.0180	-.0121
.133	.1130	.0818	.0378	.0016	-.0386	-.0503	-.0425	-.0356	-.0307
.167	.0485	.0280	-.0151	-.0660	-.1061	-.1237	-.1168	-.1032	-.0973
.233	-.0092	-.0190	-.0571	-.1061	-.1344	-.1413	-.1247	-.1080	-.1022
.300	-.0258	-.0395	-.0748	-.1217	-.1462	-.1403	-.1159	-.0992	-.0933
.367	-.0110	-.0209	-.0542	-.0914	-.1090	-.1090	-.0855	-.0718	-.0591
.433	-.0326	-.0503	-.0816	-.1159	-.1325	-.1208	-.0924	-.0816	-.0699
.500	-.0444	-.0552	-.0826	-.1129	-.1276	-.1198	-.0875	-.0806	-.0679
.567	-.0834	-.0924	-.1168	-.1433	-.1374	-.1100	-.0748	-.0806	-.0591
.633	-.0981	-.1012	-.1296	-.1482	-.1481	-.1159	-.0933	-.1022	-.0816
.700	-.1274	-.1335	-.1481	-.1677	-.1442	-.1051	-.0875	-.1022	-.0796
.733	-.1186	-.1354	-.1354	-.1237	-.0826	-.0493	-.0434	-.0513	-.0288
.767	-.0512	-.0581	-.0620	-.0513	-.0151	-.0004	.0006	-.0141	-.0004
.800	-.0063	-.0082	-.0112	.0006	.0358	.0407	.0397	.0251	.0378
.833	.0328	.0299	.0319	.0476	.0681	.0720	.0681	.0515	.0593
.867	.0641	.0642	.0740	.0916	.0984	.0975	.0926	.0799	.0798
.900	.1325	.1317	.1415	.1425	.1434	.1415	.1395	.1337	.1297
.933	.1794	.1709	.1571	.1464	.1425	.1405	.1415	.1454	.1542

NACA

TABLE I.- Continued

PRESSURE COEFFICIENTS OF A 120-INCH FINENESS-RATIO-12 BODY OF

REVOLUTION IN THE LANGLEY 16-FOOT TRANSONIC TUNNEL

(f) M = 1.0.

$\alpha = -2.3^\circ$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.1725	0.1696	0.1688	0.1901	0.1971	0.2223	0.2313	0.2457	0.2460
.033	.1256	.1286	.1278	.1432	.1483	.1676	.1747	.1823	.1816
.067	.0593	.0623	.0594	.0662	.0692	.0886	.0936	.1110	.1092
.100	.0125	.0379	.0350	.0398	.0428	.0544	.0594	.0671	.0672
.133	.0057	-.0041	-.0080	.0154	.0164	.0379	.0408	.0418	.0408
.167	-.0704	-.0802	-.0842	-.0656	-.0637	-.0656	-.0617	-.0256	-.0266
.233	-.0909	-.0812	-.0862	-.0812	-.0832	-.0695	-.0686	-.0578	-.0608
.300	-.0968	-.0968	-.1008	-.1046	-.1057	-.0958	-.0940	-.1007	-.0998
.367	-.0622	-.0617	-.0559	-.0656	-.0578	-.0626	-.0520	-.0519	-.0451
.433	-.0694	-.0685	-.0784	-.0714	-.0784	-.0665	-.0686	-.0636	-.0666
.500	-.0763	-.0656	-.0784	-.0831	-.0969	-.0724	-.0803	-.0617	-.0725
.567	-.0821	-.0792	-.0862	-.0919	-.0998	-.0968	-.0998	-.0968	-.1008
.633	-.0987	-.1007	-.1057	-.1066	-.1135	-.1085	-.1106	-.1066	-.1086
.700	-.1046	-.1105	-.1096	-.1231	-.1223	-.1261	-.1194	-.1310	-.1233
.733	-.0773	-.0909	-.0891	-.1066	-.1077	-.1251	-.1292	-.1329	-.1311
.767	.0105	.0047	.0018	-.0002	-.0061	-.0119	.0139	-.0226	-.0158
.800	.0544	.0593	.0506	.0544	.0408	.0466	.0340	.0398	.0291
.833	.0827	.0857	.0780	.0827	.0721	.0769	.0653	.0652	.0565
.867	.1061	.1101	.1034	.1081	.1014	.1062	.0965	.0993	.0916
.900	.1403	.1432	.1376	.1442	.1395	.1481	.1424	.1472	.1415
.933	.1383	.1384	.1307	.1335	.1268	.1393	.1366	.1423	.1376

$\alpha = 4.1^\circ$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.2667	0.2567	0.2401	0.2206	0.2013	0.1757	0.1645	0.1610	0.1606
.033	.2067	.2050	.1907	.1669	.1470	.1258	.1179	.1102	.1121
.067	.1273	.1268	.1131	.0907	.0714	.0555	.0529	.0535	.0568
.100	.0886	.0955	.0811	.0574	.0423	.0242	.0209	.0164	.0190
.133	.0625	.0447	.0326	.0262	.0132	.0086	.0025	-.0051	-.0023
.167	-.0081	-.0295	-.0285	-.0500	-.0605	-.0959	-.0751	-.0764	-.0721
.233	-.0507	-.0530	-.0595	-.0774	-.0877	-.0920	-.0906	-.0862	-.0848
.300	-.0710	-.0754	-.0828	-.1038	-.1090	-.1106	-.1032	-.1086	-.0993
.367	-.0416	-.0442	-.0498	-.0617	-.0663	-.0715	-.0663	-.0637	-.0576
.433	-.0459	-.0559	-.0615	-.0735	-.0770	-.0764	-.0702	-.0705	-.0644
.500	-.0633	-.0637	-.0712	-.0959	-.0848	-.0871	-.0780	-.0725	-.0692
.567	-.0933	-.0911	-.0780	-.1077	-.1003	-.0998	-.0848	-.0852	-.0770
.633	-.1126	-.1165	-.1129	-.1204	-.1119	-.1077	-.0954	-.0940	-.0906
.700	-.1262	-.1262	-.1245	-.1350	-.1245	-.1165	-.1042	-.1047	-.0993
.733	-.1339	-.1399	-.1362	-.1311	-.1119	-.0930	-.0770	-.0696	-.0654
.767	-.0178	-.0227	-.0159	-.0119	-.0004	.0057	.0112	.0115	.0142
.800	.0257	.0281	.0306	.0360	.0471	.0545	.0568	.0594	.0617
.833	.0577	.0594	.0636	.0692	.0782	.0838	.0859	.0809	.0850
.867	.0886	.0907	.0985	.1024	.1063	.1073	.1063	.1043	.1063
.900	.1438	.1434	.1451	.1424	.1422	.1395	.1393	.1356	.1383
.933	.1515	.1463	.1441	.1297	.1354	.1317	.1325	.1346	.1412

$\alpha = -0.2^\circ$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.1869	0.1943	0.1901	0.2050	0.2077	0.2138	0.2214	0.2217	0.2360
.033	.1372	.1503	.1472	.1552	.1579	.1601	.1677	.1611	.1735
.067	.0680	.0799	.0769	.0760	.0789	.0839	.0886	.0946	.1052
.100	.0212	.0536	.0525	.0506	.0525	.0506	.0564	.0526	.0632
.133	.0144	.0086	.0096	.0242	.0262	.0330	.0388	.0281	.0379
.167	-.0596	-.0676	-.0675	-.0569	-.0549	-.0706	-.0646	-.0422	-.0314
.233	-.0859	-.0745	-.0744	-.0735	-.0724	-.0706	-.0656	-.0667	-.0597
.300	-.0918	-.0930	-.0900	-.0999	-.0968	-.0960	-.0900	-.1038	-.0958
.367	-.0544	-.0559	-.0451	-.0608	-.0480	-.0588	-.0470	-.0569	-.0431
.433	-.0655	-.0676	-.0685	-.0676	-.0685	-.0657	-.0636	-.0676	-.0636
.500	-.0752	-.0676	-.0695	-.0833	-.0851	-.0725	-.0744	-.0686	-.0685
.567	-.0859	-.0852	-.0822	-.0921	-.0900	-.0930	-.0900	-.0950	-.0919
.633	-.1035	-.1077	-.1027	-.1057	-.1037	-.1028	-.1007	-.1028	-.1007
.700	-.1093	-.1175	-.1066	-.1233	-.1144	-.1194	-.1105	-.1233	-.1134
.733	-.0957	-.1077	-.0997	-.1145	-.1007	-.1136	-.1105	-.1116	-.1085
.767	.0047	-.0031	.0018	-.0041	-.0002	-.0070	-.0021	-.0051	-.0021
.800	.0505	.0516	.0506	.0477	.0467	.0487	.0467	.0487	.0457
.833	.0797	.0799	.0808	.0790	.0769	.0790	.0759	.0751	.0711
.867	.1070	.1073	.1130	.1063	.1072	.1063	.1052	.1044	.1033
.900	.1460	.1454	.1462	.1454	.1462	.1474	.1482	.1454	.1472
.933	.1411	.1386	.1394	.1337	.1345	.1396	.1413	.1386	.1403

$\alpha = 6.2^\circ$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.3035	0.2897	0.2556	0.2185	0.1829	0.1472	0.1363	0.1335	0.1354
.033	.2396	.2331	.2013	.1609	.1276	.0984	.0908	.0857	.0908
.067	.1544	.1492	.1218	.0769	.0510	.0301	.0297	.0330	.0394
.100	.1148	.1169	.0879	.0496	.0219	.0008	-.0014	-.0002	.0035
.133	.0857	.0633	.0374	.0164	-.0072	-.0148	-.0178	-.0187	-.0159
.167	.0170	-.0080	-.0208	-.0568	-.0789	-.1164	-.0954	-.0900	-.0857
.233	-.0323	-.0373	-.0566	-.0881	-.1071	-.1125	-.1061	-.0949	-.0915
.300	-.0575	-.0656	-.0857	-.1183	-.1303	-.1300	-.1158	-.1115	-.1012
.367	-.0251	-.0431	-.0586	-.0832	-.0906	-.0939	-.0809	-.0734	-.0644
.433	-.0410	-.0510	-.0692	-.0871	-.0974	-.0900	-.0780	-.0695	-.0634
.500	-.0526	-.0558	-.0741	-.1076	-.1012	-.0988	-.0818	-.0715	-.0663
.567	-.0894	-.0910	-.1051	-.1251	-.1187	-.1105	-.0857	-.0841	-.0741
.633	-.1126	-.1203	-.1255	-.1398	-.1323	-.1173	-.0983	-.0959	-.0906
.700	-.1339	-.1388	-.1429	-.1603	-.1449	-.1222	-.1071	-.1066	-.0993
.733	-.1494	-.1554	-.1594	-.1437	-.1235	-.0871	-.0731	-.0666	-.0586
.767	-.0575	-.0519	-.0411	-.0236	-.0023	.0086	.0074	.0066	.0122
.800	.0190	.0203	.0200	.0301	.0471	.0545	.0529	.0525	.0588
.833	.0480	.0496	.0520	.0652	.0762	.0818	.0791	.0711	.0791
.867	.0780	.0789	.0879	.1004	.1024	.1033	.0985	.0935	.0956
.900	.1380	.1394	.1431	.1423	.1393	.1404	.1373	.1306	.1305
.933	.1680	.1609	.1538	.1345	.1412	.1404	.1412	.1462	.1577

$\alpha = 2.0^\circ$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.2369	0.2265	0.2219	0.2168	0.2063	0.1972	0.1898	0.1894	0.1830
.033	.1817	.1777	.1743	.1650	.1568	.1484	.1384	.1347	.1316
.067	.1042	.1034	.1015	.0907	.0831	.0731	.0734	.0721	.0685
.100	.0684	.0751	.0705	.0604	.0520	.0418	.0384	.0340	.0316
.133	.0432	.0272	.0239	.0281	.0248	.0242	.0190	.0115	.0074
.167	-.0294	-.0491	-.0392	-.0500	-.0518	-.0794	-.0606	-.0608	-.0615
.233	-.0633	-.0627	-.0635	-.0715	-.0741	-.0764	-.0771	-.0764	-.0790
.300	-.0817	-.0833	-.0848	-.0970	-.0965	-.0979	-.0965	-.1067	-.1042
.367	-.0434	-.0422	-.0450	-.0500	-.0538	-.0539	-.0557	-.0530	-.0518
.433	-.0575	-.0627	-.0635	-.0686	-.0693	-.0686	-.0674	-.0706	-.0683
.500	-.0672	-.0686	-.0693	-.0882	-.0732	-.0784	-.0732	-.0735	-.0693
.567	-.0914	-.0872	-.0887	-.0940	-.0877	-.0911	-.0829	-.0872	-.0819
.633	-.1108	-.1116	-.1052	-.1077	-.1013	-.1009	-.0955	-.0970	-.0945
.700	-.1205	-.1155	-.1159	-.1194	-.1159	-.1097	-.1081	-.1077	-.1071
.733	-.1176	-.1233	-.1159	-.1175	-.1081	-.0989	-.0887	-.0852	-.0800
.767	-.0062	-.0100	-.0072	-.0051	.0006	.0018	.0045	.0066	.0083
.800	.0364	.0389	.0413	.0418	.0462	.0516	.0540	.0565	.0578
.833	.0684	.0692	.0714	.0731	.0782	.0819	.0850	.0819	.0840
.867	.0994	.1005	.1035	.1034	.1054	.1083	.1093	.1083	.1093
.900	.1478	.1464	.1471	.1444	.1452	.1454	.1452	.1435	.1442
.933	.1449	.1415	.1413	.1327	.1394	.1376	.1374	.1366	.1384

$\alpha = 8.4^\circ$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.3470	0.3225	0.2680	0.2104	0.1547	0.1139	0.1033	0.1061	0.1110
.033	.2783	.2660	.2128	.1500	.1014	.0671	.0616	.0661	.0723
.067	.1883	.1763	.1304	.0632	.0238	.0008	.0045	.0174	.0238
.100	.1467	.1412	.0936	.0359	-.0052	-.0265	-.0246	-.0129	-.0081
.133	.1167	.0866	.0413	-.0004	-.0343	-.0411	-.0391	-.0304	-.0256
.167	.0499	.0183	-.0130	-.0684	-.1041	-.1396	-.1157	-.0996	-.0944
.233	-.0081	-.0177	-.0547	-.1026	-.1331	-.1191	-.1215	-.0996	-.0953
.300	-.0372	-.0489	-.0866	-.1348	-.1583	-.1484	-.1254	-.1094	-.1012
.367	.0115	-.0304	-.0672	-.0996	-.1196	-.1055	-.0915	-.0675	-.0634
.433	-.0275	-.0392	-.0750	-.1055	-.1235	-.1065	-.0828	-.0723	-.0605
.500	-.0410	-.0538	-.0818	-.1318	-.1254	-.1172	-.0857	-.0792	-.0653
.567	-.0807	-.0860	-.1157	-.1465	-.1448	-.1152	-.0905	-.0909	-.0711
.633	-.1068	-.1152	-.1360	-.1582	-.1545	-.1162	-.1021	-.1016	-.0895
.700	-.1339	-.1309	-.1583	-.1708	-.1622	-.1104	-.1089	-.1133	-.1002
.733	-.1543	-.1562	-.1797	-.1572	-.1312	-.0723	-.0731	-.0655	-.0556
.767	-.1078	-.0821	-.0789	-.0304	-.0043	.0086	.0035	-.0070	.0045
.800	.0161	.0125	.0093	.0213	.0471	.0534	.0490	.0369	.0471
.833	.0441	.0437	.0432	.0632	.0771	.0817	.0762	.0564	.0665
.867	.0722	.0739	.0820	.1041	.0859	.1061	.0994	.0866	.0859
.900	.1409	.1422	.1479	.1529	.1498	.1500	.1469	.1422	.1362
.933	.1844	.1773	.1643	.1402	.1479	.1490	.1469	.1568	.1614

NACA

TABLE I.- Continued

PRESSURE COEFFICIENTS OF A 120-INCH FINENESS-RATIO-12 BODY OF REVOLUTION IN THE LANGLEY 16-FOOT TRANSONIC TUNNEL

(g) M = 1.01.

$\alpha = -2.3^\circ$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.1780	0.1721	0.1793	0.1965	0.2102	0.2296	0.2430	0.2510	0.2575
.033	.1337	.1293	.1407	.1419	.1610	.1653	.1851	.1867	.1967
.067	.0672	.0631	.0732	.0718	.0886	.0933	.1118	.1166	.1224
.100	.0364	.0387	.0490	.0446	.0606	.0602	.0770	.0680	.0770
.133	.0152	-.0021	.0056	.0154	.0297	.0349	.0539	.0465	.0539
.167	-.0580	-.0683	-.0581	-.0606	-.0446	-.0411	-.0234	-.0177	-.0098
.233	-.0753	-.0820	-.0735	-.0820	-.0697	-.0703	-.0552	-.0576	-.0484
.300	-.0917	-.1005	-.0928	-.1073	-.0967	-.0956	-.0813	-.0781	-.0735
.367	-.0565	-.0742	-.0658	-.0771	-.0658	-.0722	-.0600	-.0586	-.0504
.433	-.0724	-.0859	-.0784	-.0907	-.0813	-.0839	-.0706	-.0761	-.0677
.500	-.0580	-.0693	-.0620	-.0742	-.0658	-.0722	-.0600	-.0625	-.0552
.567	-.0647	-.0732	-.0677	-.0800	-.0735	-.0810	-.0697	-.0771	-.0697
.633	-.0859	-.0937	-.0909	-.0995	-.0957	-.1044	-.0967	-.1034	-.0967
.700	-.1100	-.1160	-.1121	-.1267	-.1237	-.1306	-.1218	-.1287	-.1218
.733	-.1061	-.1190	-.1160	-.1287	-.1295	-.1443	-.1392	-.1482	-.1411
.767	-.0233	-.0372	-.0330	-.0528	-.0581	-.0907	-.0890	-.1073	-.1006
.800	.0653	.0582	.0645	.0543	.0596	.0485	.0539	.0436	.0529
.833	.0980	.0913	.0963	.0874	.0925	.0845	.0886	.0757	.0828
.867	.1211	.1166	.1224	.1127	.1194	.1108	.1146	.1059	.1118
.900	.1520	.1458	.1533	.1468	.1542	.1517	.1581	.1517	.1571
.933	.1491	.1400	.1446	.1390	.1407	.1410	.1504	.1439	.1504

$\alpha = -0.2^\circ$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.2006	0.2059	0.1989	0.2156	0.2105	0.2243	0.2182	0.2263	0.2240
.033	.1514	.1592	.1583	.1602	.1622	.1612	.1661	.1660	.1670
.067	.0799	.0873	.0878	.0873	.0907	.0912	.0945	.0999	.0994
.100	.0481	.0581	.0578	.0562	.0559	.0513	.0568	.0523	.0578
.133	.0249	.0154	.0162	.0290	.0307	.0348	.0365	.0319	.0327
.167	-.0475	-.0488	-.0485	-.0459	-.0447	-.0410	-.0408	-.0371	-.0350
.233	-.0726	-.0682	-.0688	-.0682	-.0698	-.0653	-.0669	-.0624	-.0640
.300	-.0919	-.0896	-.0910	-.0945	-.0949	-.0886	-.0891	-.0818	-.0833
.367	-.0481	-.0643	-.0650	-.0653	-.0659	-.0663	-.0669	-.0605	-.0621
.433	-.0774	-.0809	-.0814	-.0809	-.0814	-.0770	-.0785	-.0741	-.0775
.500	-.0639	-.0643	-.0601	-.0663	-.0659	-.0653	-.0640	-.0624	-.0630
.567	-.0726	-.0702	-.0717	-.0721	-.0717	-.0702	-.0698	-.0702	-.0717
.633	-.0958	-.0955	-.0959	-.0925	-.0939	-.0935	-.0949	-.0964	-.0968
.700	-.1208	-.1168	-.1181	-.1207	-.1220	-.1188	-.1200	-.1188	-.1200
.733	-.1286	-.1304	-.1316	-.1285	-.1326	-.1314	-.1326	-.1334	-.1326
.767	-.0610	-.0663	-.0640	-.0663	-.0659	-.0663	-.0698	-.0770	-.0717
.800	.0539	.0552	.0549	.0542	.0539	.0552	.0539	.0552	.0549
.833	.0905	.0912	.0907	.0892	.0887	.0931	.0926	.0892	.0887
.867	.1156	.1184	.1177	.1164	.1158	.1164	.1158	.1164	.1158
.900	.1523	.1534	.1525	.1524	.1525	.1553	.1545	.1553	.1535
.933	.1446	.1456	.1448	.1466	.1371	.1456	.1448	.1456	.1448

$\alpha = 2.0^\circ$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.2339	0.2350	0.2219	0.2273	0.2093	0.2098	0.1948	0.1961	0.1958
.033	.1809	.1835	.1765	.1709	.1610	.1475	.1437	.1398	.1427
.067	.1048	.1077	.1031	.0931	.0867	.0795	.0761	.0776	.0799
.100	.0701	.0776	.0722	.0601	.0529	.0435	.0413	.0348	.0404
.133	.0461	.0319	.0278	.0329	.0278	.0251	.0220	.0154	.0182
.167	-.0262	-.0313	-.0359	-.0420	-.0475	-.0527	-.0552	-.0507	-.0494
.233	-.0599	-.0585	-.0629	-.0692	-.0736	-.0741	-.0765	-.0741	-.0753
.300	-.0830	-.0848	-.0880	-.0964	-.0996	-.0955	-.0958	-.0916	-.0900
.367	-.0669	-.0605	-.0629	-.0682	-.0697	-.0721	-.0726	-.0682	-.0687
.433	-.0734	-.0780	-.0823	-.0838	-.0861	-.0838	-.0842	-.0818	-.0823
.500	-.0657	-.0643	-.0668	-.0682	-.0707	-.0692	-.0687	-.0653	-.0668
.567	-.0724	-.0731	-.0716	-.0741	-.0707	-.0712	-.0668	-.0682	-.0649
.633	-.0985	-.1003	-.0996	-.0974	-.0948	-.0935	-.0900	-.0916	-.0900
.700	-.1197	-.1227	-.1189	-.1246	-.1189	-.1178	-.1112	-.1129	-.1093
.733	-.1380	-.1431	-.1392	-.1363	-.1296	-.1266	-.1199	-.1168	-.1151
.767	-.1158	-.1032	-.1074	-.0818	-.0803	-.0614	-.0601	-.0449	-.0552
.800	.0432	.0474	.0461	.0513	.0510	.0562	.0558	.0601	.0587
.833	.0827	.0834	.0857	.0863	.0896	.0951	.0973	.0941	.0954
.867	.1125	.1126	.1157	.1145	.1176	.1174	.1205	.1184	.1205
.900	.1559	.1544	.1552	.1524	.1533	.1524	.1533	.1514	.1523
.933	.1511	.1485	.1456	.1456	.1379	.1437	.1437	.1437	.1437

$\alpha = 4.1^\circ$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.2661	0.2638	0.2346	0.2327	0.1969	0.1891	0.1651	0.1716	0.1651
.033	.2073	.2094	.1873	.1726	.1448	.1279	.1187	.1182	.1148
.067	.1291	.1299	.1109	.0930	.0713	.0639	.0539	.0629	.0597
.100	.0866	.1007	.0810	.0609	.0385	.0289	.0211	.0221	.0191
.133	.0625	.0493	.0307	.0309	.0133	.0105	.0037	.0037	-.0002
.167	-.0069	-.0118	-.0302	-.0429	-.0620	-.0662	-.0736	-.0662	-.0688
.233	-.0504	-.0468	-.0630	-.0740	-.0891	-.0875	-.0910	-.0817	-.0852
.300	-.0764	-.0749	-.0901	-.1021	-.1142	-.1050	-.1084	-.0943	-.0978
.367	-.0533	-.0526	-.0659	-.0740	-.0814	-.0807	-.0823	-.0710	-.0746
.433	-.0697	-.0720	-.0862	-.0895	-.0997	-.0895	-.0910	-.0798	-.0852
.500	-.0648	-.0594	-.0717	-.0749	-.0823	-.0740	-.0736	-.0623	-.0659
.567	-.0755	-.0720	-.0814	-.0817	-.0823	-.0740	-.0698	-.0613	-.0620
.633	-.1044	-.1021	-.1104	-.1069	-.1065	-.0953	-.0910	-.0837	-.0852
.700	-.1276	-.1254	-.1297	-.1332	-.1297	-.1167	-.1123	-.1060	-.1065
.733	-.1526	-.1555	-.1567	-.1467	-.1374	-.1186	-.1142	-.1021	-.1046
.767	-.1546	-.1399	-.1394	-.0982	-.0814	-.0439	-.0446	-.0293	-.0369
.800	.0345	.0415	.0385	.0483	.0501	.0600	.0559	.0619	.0588
.833	.0702	.0755	.0771	.0852	.0887	.0969	.0935	.0949	.0926
.867	.0982	.1066	.1080	.1143	.1138	.1163	.1138	.1163	.1148
.900	.1484	.1531	.1506	.1502	.1457	.1493	.1428	.1454	.1428
.933	.1542	.1541	.1457	.1454	.1322	.1396	.1370	.1434	.1457

$\alpha = 6.2^\circ$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.3122	0.2923	0.2532	0.2223	0.1771	0.1582	0.1434	0.1426	0.1434
.033	.2498	.2349	.2031	.1621	.1279	.1057	.0981	.0931	.0990
.067	.1671	.1504	.1241	.0834	.0566	.0377	.0374	.0416	.0451
.100	.1219	.1193	.0913	.0494	.0239	.0027	.0066	.0027	.0094
.133	.0969	.0649	.0403	.0192	-.0021	-.0138	-.0089	-.0128	-.0089
.167	.0267	.0066	-.0175	-.0527	-.0744	-.0886	-.0859	-.0818	-.0763
.233	-.0252	-.0361	-.0570	-.0896	-.1033	-.1110	-.0994	-.0925	-.0869
.300	-.0540	-.0682	-.0869	-.1207	-.1293	-.1275	-.1110	-.1022	-.0946
.367	-.0429	-.0497	-.0667	-.0915	-.0965	-.0993	-.0830	-.0770	-.0696
.433	-.0521	-.0692	-.0840	-.1080	-.1139	-.0886	-.0898	-.0847	-.0782
.500	-.0521	-.0643	-.0744	-.0944	-.0936	-.0915	-.0705	-.0663	-.0570
.567	-.0646	-.0760	-.0850	-.1012	-.0936	-.0847	-.0647	-.0634	-.0551
.633	-.0963	-.1061	-.1168	-.1255	-.1168	-.1032	-.0840	-.0847	-.0763
.700	-.1223	-.1304	-.1370	-.1508	-.1360	-.1207	-.1052	-.1071	-.0956
.733	-.1492	-.1644	-.1669	-.1644	-.1380	-.1187	-.1013	-.1003	-.0898
.767	-.1675	-.1731	-.1592	-.1265	-.0705	-.0449	-.0329	-.0342	-.0224
.800	.0354	.0299	.0364	.0396	.0566	.0523	.0557	.0503	.0624
.833	.0681	.0649	.0721	.0795	.0904	.0892	.0923	.0824	.0913
.867	.0940	.0941	.1067	.1106	.1145	.1106	.1106	.1038	.1096
.900	.1498	.1465	.1549	.1475	.1501	.1465	.1472	.1378	.1424
.933	.1786	.1679	.1607	.1524	.1443	.1465	.1530	.1562	.1674

$\alpha = 8.4^\circ$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.3536	0.3257	0.2636	0.2132	0.1490	0.1259	0.1076	0.1210	0.1192
.033	.2863	.2646	.2116	.1501	.0999	.0716	.0672	.0745	.0778
.067	.1998	.1763	.1288	.0706	.0268	.0095	.0133	.0289	.0306
.100	.1517	.1366	.0941	.0357	-.0050	-.0244	-.0156	-.0070	-.0021
.133	.1248	.0871	.0412	.0047	-.0310	-.0400	-.0291	-.0225	-.0194
.167	.0575	.0328	-.0127	-.0642	-.0984	-.1117	-.1042	-.0904	-.0849
.233	-.0040	-.0215	-.0599	-.1069	-.1330	-.1350	-.1157	-.0982	-.0926
.300	-.0367	-.0545	-.0926	-.1399	-.1581	-.1486	-.1176	-.1049	-.0945
.367	-.0272	-.0419	-.0762	-.1127	-.1244	-.1176	-.0926	-.0797	-.0676
.433	-.0386	-.0613	-.0926	-.1273	-.1388	-.1234	-.0945	-.0875	-.0743
.500	-.0454	-.0613	-.0888	-.1166	-.1196	-.1059	-.0753	-.0729	-.0580
.567	-.0588	-.0720	-.0984	-.1224	-.1176	-.0894	-.0695	-.0700	-.0503
.633	-.0906	-.1049	-.1311	-.1476	-.1388	-.1049	-.0888	-.0962	-.0753
.700	-.1223	-.1321	-.1523	-.1699	-.1513	-.1166	-.1080	-.1185	-.0974
.733	-.1482	-.1680	-.1831	-.1845	-.1465	-.1108	-.1022	-.1098	-.0888
.767	-.1790	-.1903	-.1889	-.1496	-.0705	-.0458	-.0358	-.0448	-.0291
.800	.0296	.0250	.0248	.0367	.0537	.0512	.0499	.0367	.0518
.833	.0652	.0619	.0643	.0813	.0903	.0910	.0884	.0716	.0807
.867	.0902	.0910	.1028	.1172	.1182	.1133	.1095	.0968	.0999
.900	.1517	.1531	.1615	.1598	.1606	.1560	.1577	.1482	.1500
.933	.1959	.1841	.1702	.1618	.1481	.1560	.1596	.1647	.1712

NACA

TABLE I.- Continued

PRESSURE COEFFICIENTS OF A 120-INCH FINENESS-RATIO-12 BODY OF

REVOLUTION IN THE LANGLEY 16-FOOT TRANSONIC TUNNEL

(h) M = 1.02.

$\alpha = -2.3^\circ$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.1958	0.1895	0.1981	0.2114	0.2277	0.2438	0.2602	0.2715	0.2745
.033	.1501	.1523	.1580	.1656	.1790	.1866	.2019	.2114	.2134
.067	.0815	.0855	.0893	.0941	.1046	.1141	.1275	.1370	.1380
.100	.0491	.0578	.0626	.0626	.0731	.0769	.0884	.0893	.0903
.133	.0291	.0187	.0197	-.0032	.0445	.0569	.0674	.0683	.0683
.167	-.0394	-.0424	-.0395	-.0357	-.0262	-.0176	-.0061	.0063	.0073
.233	-.0689	-.0662	-.0662	-.0662	-.0615	-.0538	-.0462	-.0405	-.0405
.300	-.0899	-.0901	-.0910	-.0958	-.0939	-.0834	-.0777	-.0681	-.0691
.367	-.0774	-.0719	-.0729	-.0738	-.0729	-.0710	-.0662	-.0567	-.0567
.433	-.0889	-.0901	-.0939	-.0939	-.0939	-.0891	-.0834	-.0786	-.0796
.500	-.0766	-.0767	-.0796	-.0834	-.0853	-.0815	-.0805	-.0757	-.0767
.567	-.0899	-.0862	-.0920	-.0939	-.0977	-.0958	-.0939	-.0929	-.0930
.633	-.0813	-.0805	-.0853	-.0872	-.0901	-.0920	-.0910	-.0920	-.0920
.700	-.0880	-.0862	-.0882	-.0939	-.0958	-.0958	-.0958	-.0977	-.0968
.733	-.0861	-.0882	-.0939	-.0958	-.1054	-.1082	-.1130	-.1139	-.1140
.767	-.0518	-.0576	-.0624	-.0681	-.0834	-.0948	-.1063	-.1101	-.1120
.800	.0444	.0445	.0426	.0397	.0330	.0282	-.0176	.0177	.0178
.833	.1034	.1036	.1027	.1007	.0979	.1007	.0951	.0902	.0893
.867	.1348	.1370	.1361	.1341	.1342	.1332	.1294	.1284	.1275
.900	.1663	.1675	.1676	.1675	.1695	.1723	.1733	.1732	.1733
.933	.1634	.1618	.1580	.1570	.1590	.1618	.1647	.1647	.1647

$\alpha = 4.1^\circ$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.2984	0.2798	0.2566	0.2474	0.2193	0.2017	0.1869	0.1893	0.1859
.033	.2303	.2303	.2088	.1902	.1668	.1521	.1400	.1397	.1353
.067	.1512	.1483	.1314	.1121	.0913	.0816	.0741	.0797	.0780
.100	.1064	.1140	.0999	.0749	.0560	.0444	.0378	.0377	.0378
.133	.0826	.0663	.0493	.0473	.0321	.0263	.0034	.0187	.0178
.167	.0158	.0072	-.0080	-.0233	-.0386	-.0461	-.0520	-.0461	-.0462
.233	-.0347	-.0347	-.0481	-.0633	-.0739	-.0766	-.0768	-.0719	-.0720
.300	-.0652	-.0690	-.0806	-.0976	-.1045	-.1014	-.0978	-.0890	-.0873
.367	-.0575	-.0576	-.0653	-.0776	-.0825	-.0881	-.0825	-.0766	-.0749
.433	-.0747	-.0843	-.0911	-.1014	-.1045	-.1014	-.0959	-.0938	-.0892
.500	-.0776	-.0814	-.0844	-.0957	-.0940	-.0947	-.0844	-.0823	-.0768
.567	-.0938	-.0957	-.1016	-.1071	-.1064	-.1005	-.0921	-.0881	-.0844
.633	-.0957	-.1052	-.1016	-.1062	-.0969	-.0919	-.0844	-.0785	-.0768
.700	-.1014	-.1090	-.1036	-.1109	-.1036	-.0957	-.0873	-.0862	-.0825
.733	-.1214	-.1262	-.1255	-.1186	-.1074	-.0957	-.0864	-.0823	-.0778
.767	-.1262	-.1319	-.1207	-.1043	-.0806	-.0614	-.0501	-.0461	-.0825
.800	-.0023	.0072	.0111	.0263	.0350	.0454	.0455	.0501	.0493
.833	.0806	.0854	.0875	.0949	.0980	.1045	.1028	.1026	.1018
.867	.1178	.1235	.1257	.1321	.1314	.1331	.1295	.1321	.1314
.900	.1674	.1693	.1697	.1674	.1639	.1655	.1620	.1616	.1611
.933	.1731	.1693	.1677	.1559	.1563	.1559	.1544	.1597	.1620

$\alpha = -0.2^\circ$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.2211	0.2166	0.2173	0.2271	0.2278	0.2347	0.2345	0.2414	0.2393
.033	.1705	.1755	.1751	.1783	.1780	.1831	.1827	.1841	.1808
.067	.0969	.1028	.1022	.1047	.1041	.1095	.1089	.1143	.1118
.100	.0615	.0732	.0715	.0703	.0677	.0703	.0687	.0694	.0677
.133	.0405	.0312	.0293	.0445	.0447	.0512	.0504	.0474	.0466
.167	-.0283	-.0291	-.0311	-.0271	-.0272	-.0233	-.0244	-.0166	-.0176
.233	-.0627	-.0596	-.0608	-.0606	-.0608	-.0577	-.0589	-.0558	-.0560
.300	-.0875	-.0873	-.0876	-.0912	-.0963	-.0854	-.0857	-.0797	-.0800
.367	-.0829	-.0701	-.0704	-.0711	-.0713	-.0730	-.0733	-.0673	-.0675
.433	-.0875	-.0921	-.0915	-.0931	-.0915	-.0893	-.0886	-.0883	-.0867
.500	-.0799	-.0797	-.0780	-.0816	-.0800	-.0816	-.0800	-.0797	-.0780
.567	-.0971	-.0940	-.0953	-.0950	-.0963	-.0950	-.0953	-.0950	-.0953
.633	-.0913	-.0902	-.0905	-.0883	-.0886	-.0873	-.0876	-.0893	-.0886
.700	-.0961	-.0950	-.0934	-.0959	-.0972	-.0940	-.0953	-.0969	-.0963
.733	-.1009	-.1026	-.1039	-.1026	-.1049	-.1045	-.1087	-.1045	-.1068
.767	-.0818	-.0816	-.0838	-.0807	-.0848	-.0854	-.0876	-.0864	-.0886
.800	.0271	.0321	.0265	.0312	.0245	.0312	.0255	.0312	.0255
.833	.0940	.0971	.0955	.0952	.0926	.0990	.0965	.0952	.0926
.867	.1303	.1334	.1310	.1315	.1310	.1315	.1300	.1315	.1300
.900	.1676	.1688	.1674	.1678	.1674	.1707	.1693	.1697	.1693
.933	.1599	.1592	.1578	.1573	.1597	.1611	.1597	.1592	.1569

$\alpha = 6.2^\circ$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.3267	0.3051	0.2683	0.2344	0.1927	0.1733	0.1574	0.1590	0.1583
.033	.2637	.2516	.2176	.1791	.1430	-.1218	.1124	.1142	.1124
.067	.1788	.1667	.1363	.0989	.0694	.0550	.0493	.0569	.0579
.100	.1330	.1342	.1029	.0626	.0340	.0178	.0159	.0187	.0207
.133	.1063	.0798	.0512	.0340	.0092	.0015	.0006	.0006	.0015
.167	.0385	.0225	-.0042	-.0347	-.0597	-.0701	-.0711	-.0634	-.0616
.233	-.0177	-.0252	-.0491	-.0787	-.0960	-.1006	-.0922	-.0825	-.0797
.300	-.0521	-.0615	-.0836	-.1149	-.1266	-.1226	-.1094	-.0958	-.0922
.367	-.0628	-.0519	-.0721	-.0958	-.1036	-.1044	-.0931	-.0825	-.0778
.433	-.0654	-.0796	-.0979	-.1187	-.1247	-.1168	-.1017	-.0958	-.0893
.500	-.0731	-.0806	-.0941	-.1111	-.1132	-.1073	-.0893	-.0825	-.0769
.567	-.0902	-.0977	-.1132	-.1264	-.1256	-.1111	-.0922	-.0863	-.0807
.633	-.0969	-.1082	-.1151	-.1235	-.1161	-.0997	-.0826	-.0806	-.0740
.700	-.1074	-.1149	-.1170	-.1283	-.1180	-.0997	-.0893	-.0892	-.0807
.733	-.1294	-.1397	-.1447	-.1397	-.1170	-.0939	-.0845	-.0815	-.0730
.767	-.1437	-.1502	-.1447	-.1207	-.0807	-.0538	-.0472	-.0462	-.0415
.800	-.0244	-.0157	-.0061	.0168	.0369	.0416	.0398	.0416	.0465
.833	.0710	.0722	.0771	.0874	.0924	.0960	.0933	.0884	.0933
.867	.1053	.1094	.1172	.1247	.1239	.1237	.1201	.1161	.1191
.900	.1616	.1619	.1660	.1628	.1612	.1600	.1593	.1523	.1535
.933	.1893	.1810	.1736	.1590	.1621	.1619	.1650	.1695	.1793

$\alpha = 1.9^\circ$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.2500	0.2495	0.2364	0.2390	0.2259	0.2219	0.2086	0.2152	0.2086
.033	.1955	.2037	.1914	.1885	.1741	.1694	.1607	.1608	.1540
.067	.1180	.1255	.1147	.1122	.0993	.0988	.0888	.0969	.0917
.100	.0817	.0931	.0840	.0759	.0639	.0607	.0514	.0540	.0495
.133	.0587	.0492	.0399	.0511	.0399	.0425	.0341	.0330	.0303
.167	-.0101	-.0109	-.0205	-.0214	-.0320	-.0309	-.0397	-.0309	-.0359
.233	-.0522	-.0462	-.0541	-.0567	-.0656	-.0633	-.0685	-.0633	-.0675
.300	-.0809	-.0776	-.0848	-.0900	-.0963	-.0891	-.0943	-.0843	-.0876
.367	-.0659	-.0624	-.0694	-.0691	-.0752	-.0757	-.0800	-.0719	-.0752
.433	-.0847	-.0862	-.0905	-.0919	-.0963	-.0910	-.0943	-.0900	-.0915
.500	-.0819	-.0776	-.0809	-.0824	-.0857	-.0824	-.0838	-.0786	-.0809
.567	-.1000	-.0939	-.0982	-.0958	-.0991	-.0939	-.0943	-.0900	-.0924
.633	-.0953	-.0939	-.0953	-.0900	-.0905	-.0843	-.0838	-.0815	-.0838
.700	-.1020	-.0977	-.0982	-.0967	-.0991	-.0910	-.0924	-.0891	-.0915
.733	-.1153	-.1139	-.1164	-.1063	-.1059	-.0977	-.0972	-.0900	-.0915
.767	-.1086	-.1053	-.1039	-.0891	-.0848	-.0719	-.0704	-.0605	-.0646
.800	.0099	.0206	.0169	.0099	.0265	.0387	.0341	.0444	.0380
.833	.0855	.0921	.0888	.0950	.0917	.1036	.0993	.1026	.0974
.867	.1228	.1293	.1271	.1312	.1291	.1351	.1300	.1360	.1310
.900	.1678	.1713	.1664	.1694	.1655	.1694	.1645	.1684	.1645
.933	.1620	.1637	.1588	.1580	.1578	.1598	.1549	.1589	.1540

$\alpha = 8.5^\circ$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.3652	0.3371	0.2773	0.2237	0.1615	0.1369	0.1212	0.1360	0.1318
.033	.2983	.2809	.2237	.1665	.1117	.0883	.0791	.0940	.0896
.067	.2095	.1913	.1394	.0845	.0370	.0254	.0236	.0406	.0408
.100	.1608	.1550	.1040	.0473	.0034	-.0099	-.0080	.0063	.0063
.133	.1331	.0997	.0532	.0177	-.0224	-.0261	-.0234	-.0109	-.0128
.167	.0663	.0463	-.0013	-.0481	-.0875	-.0948	-.0923	-.0738	-.0741
.233	.0013	-.0109	-.0550	-.0967	-.1278	-.1253	-.1105	-.0881	-.0875
.300	-.0350	-.0490	-.0904	-.1348	-.1594	-.1444	-.1220	-.0986	-.0971
.367	-.0309	-.0433	-.0818	-.1167	-.1345	-.1234	-.1019	-.0862	-.0780
.433	-.0540	-.0719	-.1086	-.1405	-.1536	-.1348	-.1096	-.0986	-.0894
.500	-.0636	-.0776	-.1067	-.1348	-.1392	-.1215	-.0952	-.0891	-.0780
.567	-.0827	-.0948	-.1268	-.1501	-.1507	-.1177	-.0942	-.0948	-.0732
.633	-.0951	-.1100	-.1325	-.1482	-.1392	-.1014	-.0875	-.0948	-.0722
.700	-.1094	-.1205	-.1364	-.1510	-.1364	-.0986	-.0952	-.1043	-.0827
.733	-.1324	-.1444	-.1651	-.1606	-.1287	-.0910	-.0894	-.0929	-.0732
.767	-.1553	-.1634	-.1708	-.1405	-.0827	-.0528	-.0540	-.0624	-.0511
.800	-.0540	-.0395	-.0329	-.0101	.0341	.0406	.0341	.0292	.0370
.833	.0672	.0702	.0686	.0902	.0916	.0978	.0896	.0788	.0820
.867	.1006	.1074	.1155	.1312	.1270	.1274	.1184	.1112	.1088
.900	.1637	.1693	.1749	.1760	.1710	.1722	.1663	.1646	.1576
.933	.2057	.1979	.1816	.1646	.1672	.1703	.1701	.1789	.1825

TABLE I.- Continued

PRESSURE COEFFICIENTS OF A 120-INCH FINENESS-RATIO-12 BODY OF REVOLUTION IN THE LANGLEY 16-FOOT TRANSONIC TUNNEL

(i) M = 1.05.

$\alpha = -2.3^{\circ}$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.2138	0.2069	0.2124	0.2265	0.2385	0.2564	0.2703	0.2872	0.2833
.033	.1691	.1705	.1741	.1835	.1928	.2059	.2161	.2302	.2637
.067	.1114	.1154	.1163	.1229	.1293	.1443	.1527	.1695	.1620
.100	.0881	.0958	.0976	.1004	.1079	.1135	.1228	.1294	.1265
.133	.0723	.0594	.0622	.0771	.0845	.0976	.1079	.1107	.1079
.167	.0034	-.0013	.0024	.0062	.0146	.0239	.0351	.0463	.0463
.233	-.0348	-.0340	-.0321	-.0349	-.0274	-.0218	-.0116	-.0246	-.0060
.300	-.0730	-.0723	-.0732	-.0779	-.0769	-.0697	-.0620	-.0405	-.0601
.367	-.0743	-.0648	-.0657	-.0667	-.0666	-.0639	-.0601	-.0499	-.0508
.433	-.0870	-.0900	-.0928	-.0928	-.0937	-.0853	-.0834	-.0741	-.0788
.500	-.1000	-.0984	-.1012	-.1021	-.1030	-.0993	-.0974	-.0919	-.0918
.567	-.1131	-.1087	-.1142	-.1171	-.1217	-.1189	-.1189	-.1189	-.1198
.633	-.1196	-.1152	-.1198	-.1199	-.1236	-.1236	-.1254	-.1255	-.1254
.700	-.1326	-.1273	-.1338	-.1376	-.1441	-.1423	-.1441	-.1460	-.1469
.733	-.1242	-.1217	-.1329	-.1329	-.1487	-.1516	-.1618	-.1591	-.1637
.767	-.1028	-.1068	-.1114	-.1161	-.1301	-.1367	-.1506	-.1497	-.1515
.800	-.0348	-.0265	-.0386	-.0396	-.0564	-.0611	-.0760	-.0807	-.0844
.833	.0760	.0874	.0743	.0836	.0724	.0846	.0659	.0743	.0575
.867	.1505	.1574	.1527	.1565	.1508	.1574	.1517	.1555	.1489
.900	.1971	.1994	.1973	.1994	.1993	.2031	.2031	.2059	.2040
.933	.2036	.2013	.1984	.1994	.1993	.1994	.2021	.2031	.2040

$\alpha = 4.1^{\circ}$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.3015	0.2958	0.2751	0.2603	0.2377	0.2154	0.2004	0.2005	0.1957
.033	.2456	.2463	.2293	.2098	.1864	.1678	.1574	.1556	.1509
.067	.1748	.1743	.1593	.1388	.1182	.1099	.1005	.1071	.1023
.100	.1431	.1491	.1350	.1145	.0967	.0818	.0949	.0753	.0734
.133	.1236	.1061	.0930	.0902	.0753	.0678	.0641	.0585	.0584
.167	.0565	.0473	.0360	.0192	.0052	-.0060	-.0097	-.0069	-.0060
.233	-.0004	-.0022	-.0097	-.0293	-.0387	-.0452	-.0452	-.0433	-.0396
.300	-.0488	-.0527	-.0611	-.0798	-.0881	-.0863	-.0844	-.0807	-.0797
.367	-.0539	-.0499	-.0583	-.0695	-.0760	-.0807	-.0769	-.0704	-.0685
.433	-.0731	-.0807	-.0881	-.0985	-.1040	-.1003	-.0975	-.0929	-.0909
.500	-.0926	-.0929	-.1003	-.1078	-.1124	-.1115	-.1059	-.1013	-.0993
.567	-.1215	-.1200	-.1255	-.1312	-.1311	-.1246	-.1162	-.1115	-.1087
.633	-.1373	-.1321	-.1367	-.1349	-.1339	-.1265	-.1180	-.1172	-.1143
.700	-.1532	-.1489	-.1535	-.1564	-.1535	-.1414	-.1339	-.1312	-.1292
.733	-.1700	-.1723	-.1731	-.1648	-.1544	-.1368	-.1274	-.1181	-.1152
.767	-.1634	-.1676	-.1666	-.1517	-.1339	-.1153	-.1059	-.1003	-.0975
.800	-.1047	-.0966	-.0900	-.0732	-.0527	-.0321	-.0293	-.0219	-.0237
.833	.0509	.0604	.0594	.0725	.0753	.0818	.0762	.0781	.0743
.867	.1413	.1454	.1481	.1491	.1462	.1482	.1453	.1454	.1453
.900	.1981	.1968	.1957	.1911	.1901	.1893	.1892	.1883	.1892
.933	.2093	.2061	.2022	.1968	.1948	.1911	.1929	.1968	.2060

$\alpha = -0.2^{\circ}$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.2362	0.2337	0.2348	0.2430	0.2441	0.2496	0.2497	0.2598	0.2544
.033	.1877	.1936	.1937	.1973	.1984	.1992	.1984	.2067	.2012
.067	.1253	.1330	.1321	.1330	.1331	.1395	.1377	.1498	.1424
.100	.1011	.1125	.1125	.1106	.1116	.1106	.1097	.1153	.1097
.133	.0745	.0761	.0761	.0892	.0901	.0966	.0967	.0957	.0920
.167	.0173	.0155	.0164	.0192	.0202	.0229	.0239	.0313	.0295
.233	-.0264	-.0209	-.0190	-.0218	-.0200	-.0181	-.0172	-.0153	-.0153
.300	-.0684	-.0647	-.0657	-.0694	-.0713	-.0638	-.0657	-.0601	-.0676
.367	-.0617	-.0591	-.0610	-.0601	-.0620	-.0610	-.0629	-.0563	-.0582
.433	-.0851	-.0862	-.0881	-.0871	-.0890	-.0824	-.0844	-.0806	-.0844
.500	-.1019	-.0955	-.0984	-.0964	-.0984	-.0964	-.0984	-.0946	-.0974
.567	-.1205	-.1123	-.1152	-.1142	-.1161	-.1132	-.1161	-.1160	-.1189
.633	-.1270	-.1188	-.1217	-.1170	-.1189	-.1170	-.1189	-.1207	-.1208
.700	-.1410	-.1337	-.1376	-.1375	-.1404	-.1356	-.1385	-.1393	-.1422
.733	-.1429	-.1384	-.1450	-.1384	-.1459	-.1421	-.1487	-.1440	-.1497
.767	-.1224	-.1235	-.1273	-.1235	-.1292	-.1272	-.1329	-.1300	-.1301
.800	-.0581	-.0507	-.0573	-.0554	-.0620	-.0545	-.0610	-.0573	-.0629
.833	.0676	.0789	.0696	.0733	.0677	.0808	.0715	.0761	.0668
.867	.1514	.1582	.1536	.1572	.1527	.1582	.1536	.1582	.1536
.900	.2017	.2048	.2031	.2039	.2031	.2057	.2040	.2057	.2040
.933	.2026	.2039	.2031	.2039	.2040	.2039	.2031	.2029	.2021

$\alpha = 6.2^{\circ}$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.3414	0.3266	0.2945	0.2631	0.2236	0.1883	0.1769	0.1771	0.1760
.033	.2809	.2743	.2441	.2061	.1713	.1444	.1340	.1342	.1349
.067	.2073	.1977	.1723	.1332	.1023	.0856	.0817	.0893	.0911
.100	.1700	.1697	.1452	.1080	.0808	.0585	.0575	.0604	.0622
.133	.1468	.1248	.1004	.0828	.0566	.0454	.0454	.0463	.0472
.167	.0806	.0688	.0444	.0136	-.0125	-.0256	-.0274	-.0200	-.0181
.233	.0155	.0127	-.0088	-.0396	-.0592	-.0658	-.0610	-.0508	-.0480
.300	-.0320	-.0405	-.0601	-.0919	-.1077	-.1041	-.0937	-.0835	-.0797
.367	-.0298	-.0405	-.0592	-.0826	-.0937	-.0966	-.0853	-.0751	-.0685
.433	-.0609	-.0742	-.0909	-.1125	-.1217	-.1162	-.1021	-.0947	-.0890
.500	-.0833	-.0882	-.1040	-.1218	-.1282	-.1256	-.1096	-.1022	-.0956
.567	-.1149	-.1190	-.1320	-.1480	-.1487	-.1358	-.1152	-.1097	-.1030
.633	-.1354	-.1358	-.1459	-.1536	-.1487	-.1349	-.1180	-.1181	-.1096
.700	-.1522	-.1545	-.1637	-.1751	-.1665	-.1461	-.1320	-.1330	-.1245
.733	-.1736	-.1835	-.1889	-.1854	-.1609	-.1340	-.1208	-.1162	-.1021
.767	-.1755	-.1872	-.1889	-.1741	-.1376	-.1106	-.1002	-.1059	-.0984
.800	-.1168	-.1144	-.1040	-.0845	-.0452	-.0312	-.0274	-.0312	-.0218
.833	.0359	.0389	.0519	.0650	.0696	.0697	.0696	.0604	.0705
.867	.1291	.1304	.1377	.1379	.1359	.1342	.1340	.1276	.1340
.900	.1952	.1940	.1947	.1865	.1872	.1865	.1891	.1809	.1844
.933	.2334	.2266	.2199	.2108	.2096	.2052	.2096	.2136	.2311

$\alpha = 1.9^{\circ}$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.2697	0.2619	0.2581	0.2526	0.2441	0.2339	0.2283	0.2302	0.2264
.033	.2157	.2171	.2152	.2059	.1993	.1835	.1797	.1798	.1779
.067	.1486	.1499	.1489	.1368	.1321	.1247	.1219	.1266	.1228
.100	.1216	.1266	.1265	.1126	.1097	.0958	.0957	.0920	.0920
.133	.1030	.0892	.0873	.0920	.0883	.0846	.0836	.0762	.0761
.167	.0359	.0323	.0286	.0230	.0174	.0136	.0099	.0136	.0127
.233	-.0153	-.0060	-.0134	-.0162	-.0246	-.0228	-.0293	-.0246	-.0284
.300	-.0590	-.0536	-.0620	-.0666	-.0741	-.0666	-.0722	-.0676	-.0741
.367	-.0615	-.0536	-.0564	-.0601	-.0638	-.0666	-.0676	-.0629	-.0629
.433	-.0786	-.0834	-.0853	-.0881	-.0900	-.0872	-.0881	-.0862	-.0872
.500	-.0954	-.0946	-.0956	-.0984	-.1002	-.1012	-.0993	-.0984	-.0974
.567	-.1205	-.1170	-.1180	-.1189	-.1180	-.1161	-.1133	-.1142	-.1124
.633	-.1308	-.1264	-.1254	-.1226	-.1208	-.1198	-.1152	-.1189	-.1142
.700	-.1457	-.1432	-.1413	-.1450	-.1413	-.1385	-.1329	-.1357	-.1366
.733	-.1540	-.1590	-.1543	-.1506	-.1450	-.1413	-.1338	-.1320	-.1273
.767	-.1401	-.1488	-.1422	-.1385	-.1273	-.1226	-.1142	-.1133	-.1077
.800	-.0777	-.0816	-.0685	-.0713	-.0536	-.0517	-.0368	-.0424	-.0321
.833	.0639	.0556	.0687	.0584	.0743	.0706	.0817	.0696	.0789
.867	.1514	.1490	.1545	.1499	.1545	.1499	.1555	.1499	.1555
.900	.2045	.2031	.2049	.2012	.2012	.2003	.2012	.1984	.2003
.933	.2054	.2040	.2031	.2022	.2021	.2003	.2003	.2003	.2012

$\alpha = 8.5^{\circ}$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.3905	0.3660	0.3146	0.2607	0.2037	0.1618	0.1524	0.1563	0.1599
.033	.3253	.3092	.2624	.2019	.1524	.1171	.1133	.1180	.1236
.067	.2453	.2280	.1869	.1246	.0816	.0593	.0630	.0761	.0816
.100	.2025	.1963	.1552	.0966	.0583	.0313	.0397	.0500	.0546
.133	.1783	.1479	.1059	.0695	.0304	.0173	.0248	.0323	.0369
.167	.1122	.0938	.0518	.0034	-.0358	-.0516	-.0479	-.0330	-.0274
.233	.0369	.0304	-.0097	-.0572	-.0889	-.0945	-.0805	-.0600	-.0535
.300	-.0106	-.0237	-.0600	-.1085	-.1327	-.1272	-.1029	-.0843	-.0786
.367	-.0079	-.0265	-.0600	-.1011	-.1187	-.1160	-.0908	-.0768	-.0637
.433	-.0422	-.0619	-.0936	-.1309	-.1448	-.1328	-.1047	-.0955	-.0814
.500	-.0664	-.0778	-.1057	-.1402	-.1495	-.1402	-.1094	-.1048	-.0889
.567	-.1009	-.1113	-.1383	-.1682	-.1700	-.1449	-.1122	-.1160	-.0936
.633	-.1260	-.1318	-.1532	-.1747	-.1672	-.1384	-.1159	-.1281	-.1029
.700	-.1446	-.1523	-.1718	-.1943	-.1783	-.1402	-.1262	-.1430	-.1131
.733	-.1669	-.1868	-.1970	-.2027	-.1625	-.1262	-.1131	-.1225	-.0880
.767	-.1753	-.1943	-.1998	-.1934	-.1336	-.1067	-.0982	-.1216	-.0982
.800	-.1223	-.1262	-.1159	-.0964	-.0367	-.0367	-.0246	-.0489	-.0246
.833	.0313	.0201	.0471	.0481	.0704	.0668	.0723	.0481	.0695
.867	.1346	.1311	.1459	.1469	.1506	.1423	.1422	.1236	.1329
.900	.2099	.2085	.2149	.2066	.2102	.2038	.2065	.1954	.1953
.933	.2537	.2439	.2335	.2215	.2186	.2150	.2195	.2262	.2400

NACA

TABLE I.- Concluded

PRESSURE COEFFICIENTS OF A 120-INCH FINENESS-RATIO-12 BODY OF REVOLUTION IN THE LANGLEY 16-FOOT TRANSONIC TUNNEL

(j) M = 1.09.

$\alpha = -2.4^\circ$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.2011	0.2014	0.1968	0.2253	0.2263	0.2557	0.2576	0.2869	0.2788
.033	.1634	.1682	.1646	.1830	.1849	.2069	.2097	.1958	.2235
.067	.1064	.1103	.1048	.1130	.1131	.1333	.1379	.1655	.1600
.100	.0458	.0744	.0707	.0799	.0808	.0946	.0956	.1176	.1085
.133	.0577	.0477	.0422	.0670	.0689	.0882	.0919	.1020	.0974
.167	.0145	.0017	.0017	.0140	.0210	.0145	.0201	.0578	.0578
.233	-.0305	-.0241	-.0241	-.0241	-.0195	-.0103	-.0039	.0090	.0099
.300	-.0471	-.0499	-.0499	-.0554	-.0536	-.0434	-.0370	-.0260	-.0223
.367	-.0262	-.0260	-.0315	-.0278	-.0315	-.0306	-.0278	-.0195	-.0195
.433	-.0081	-.0048	.0090	.0044	.0090	.0320	.0044	.0477	-.0011
.500	-.0425	-.0490	-.0370	-.0664	-.0517	-.0545	-.0296	-.0434	-.0195
.567	-.0921	-.0931	-.0932	-.1069	-.1088	-.1152	-.1088	-.1171	-.1097
.633	-.1233	-.1226	-.1263	-.1309	-.1337	-.1318	-.1318	-.1281	-.1291
.700	-.1481	-.1447	-.1493	-.1557	-.1622	-.1594	-.1622	-.1649	-.1659
.733	-.1536	-.1520	-.1622	-.1576	-.1733	-.1796	-.1880	-.1852	-.1889
.767	-.1426	-.1428	-.1521	-.1539	-.1714	-.1695	-.1852	-.1898	-.1963
.800	-.0994	-.0950	-.1051	-.1069	-.1217	-.1189	-.1337	-.1318	-.1420
.833	-.0627	-.0444	-.0591	-.0628	-.0757	-.0609	-.0784	-.0766	-.0858
.867	-.0020	.0099	-.0057	.0164	-.0039	.0090	-.0177	.0035	-.0232
.900	.0788	.0992	.0808	.0964	.0827	.1001	.0873	.1103	.0900
.933	.1211	.1351	.1158	.1305	.1167	.1333	.1195	.1379	.1232

$\alpha = 4.1^\circ$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.2940	0.2798	0.2668	0.2504	0.2245	0.2080	0.1913	0.2006	0.1895
.033	.2398	.2366	.2235	.2034	.1821	.1656	.1526	.1564	.1462
.067	.1690	.1656	.1517	.1334	.1131	.1030	.1011	.1076	.1029
.100	.1157	.1306	.1186	.0965	.0790	.0615	.0532	.0560	.0495
.133	.1083	.0892	.0771	.0754	.0615	.0588	.0541	.0486	.0477
.167	.0633	.0413	.0330	.0238	.0127	-.0168	-.0158	.0072	.0072
.233	-.0002	.0044	-.0011	-.0204	-.0269	-.0343	-.0306	-.0287	-.0260
.300	-.0223	-.0297	-.0324	-.0564	-.0582	-.0610	-.0536	-.0573	-.0527
.367	-.0084	-.0177	-.0204	-.0361	-.0370	-.0444	-.0370	-.0333	-.0296
.433	.0743	.0625	.0587	.0284	.0238	.0053	.0109	.0044	.0118
.500	-.0397	-.0426	-.0407	-.0748	-.0702	-.0693	-.0563	-.0582	-.0481
.567	-.1114	-.1126	-.1107	-.1255	-.1180	-.1162	-.1015	-.1024	-.0932
.633	-.1363	-.1402	-.1420	-.1457	-.1420	-.1365	-.1254	-.1255	-.1180
.700	-.1684	-.1678	-.1677	-.1770	-.1714	-.1595	-.1475	-.1494	-.1429
.733	-.1887	-.1945	-.1935	-.1909	-.1788	-.1641	-.1493	-.1457	-.1401
.767	-.1979	-.2047	-.1990	-.1899	-.1723	-.1549	-.1401	-.1384	-.1328
.800	-.1510	-.1476	-.1401	-.1338	-.1162	-.1034	-.0959	-.0941	-.0895
.833	-.0967	-.0914	-.0867	-.0794	-.0646	-.0573	-.0527	-.0582	-.0536
.867	-.0186	-.0140	-.0039	.0035	.0072	.0247	.0053	.0044	.0053
.900	.0945	.0984	.0956	.0947	.0910	.0919	.0873	.0882	.0864
.933	.1387	.1380	.1324	.1269	.1250	.1232	.1232	.1288	.1379

$\alpha = -0.2^\circ$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.2240	0.2190	0.2236	0.2328	0.2383	0.2457	0.2447	0.2595	0.2539
.033	.1799	.1840	.1885	.1895	.1950	.1978	.2014	.2042	.2060
.067	.1193	.1214	.1250	.1195	.1278	.1278	.1324	.1453	.1453
.100	.0577	.0864	.0910	.0864	.0910	.0864	.0891	.0956	.0928
.133	.0678	.0560	.0587	.0735	.0762	.0827	.0864	.0836	.0827
.167	.0255	.0099	.0145	.0210	.0265	.0081	.0118	.0403	.0403
.233	-.0250	-.0195	-.0131	-.0195	-.0131	-.0140	-.0085	-.0076	-.0039
.300	-.0425	-.0471	-.0398	-.0536	-.0462	-.0471	-.0389	-.0435	-.0398
.367	-.0293	-.0287	-.0223	-.0306	-.0260	-.0306	-.0260	-.0287	-.0232
.433	.0210	.0118	.0210	.0192	.0330	.0366	.0477	.0486	.0495
.500	-.0507	-.0499	-.0425	-.0646	-.0591	-.0545	-.0444	-.0508	-.0444
.567	-.1022	-.1033	-.0978	-.1107	-.1051	-.1134	-.1070	-.1162	-.1107
.633	-.1279	-.1319	-.1282	-.1337	-.1272	-.1291	-.1254	-.1309	-.1235
.700	-.1536	-.1558	-.1512	-.1604	-.1567	-.1586	-.1530	-.1622	-.1567
.733	-.1601	-.1678	-.1631	-.1696	-.1677	-.1733	-.1687	-.1742	-.1677
.767	-.1527	-.1613	-.1585	-.1632	-.1604	-.1687	-.1641	-.1696	-.1631
.800	-.1068	-.1088	-.1070	-.1162	-.1125	-.1144	-.1107	-.1355	-.1116
.833	-.0618	-.0628	-.0609	-.0702	-.0655	-.0692	-.0665	-.0757	-.0702
.867	.0081	.0053	.0109	.0044	.0090	.0035	.0081	-.0002	.0053
.900	.1046	.0983	.1029	.0993	.1048	.1011	.1066	.1011	.1048
.933	.1386	.1343	.1379	.1352	.1398	.1352	.1389	.1361	.1398

$\alpha = 6.2^\circ$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.3297	0.3144	0.2815	0.2500	0.2060	0.1829	0.1609	0.1755	0.1646
.033	.2709	.2666	.2355	.1985	.1628	.1424	.1250	.1360	.1241
.067	.1946	.1893	.1609	.1231	.0882	.0799	.0716	.0918	.0864
.100	.1432	.1562	.1305	.0937	.0606	.0440	.0330	.0431	.0366
.133	.1340	.1121	.0827	.0679	.0422	.0394	.0357	.0375	.0366
.167	.0862	.0605	.0385	.0173	-.0057	-.0351	-.0333	-.0057	-.0048
.233	.0164	.0191	-.0011	-.0296	-.0481	-.0517	-.0462	-.0351	-.0324
.300	-.0066	-.0167	-.0342	-.0655	-.0784	-.0747	-.0646	-.0591	-.0545
.367	0	-.0085	-.0250	-.0462	-.0563	-.0526	-.0444	-.0223	-.0269
.433	.0577	.0743	.0403	.0145	-.0075	-.0167	-.0131	-.0103	-.0029
.500	-.0241	-.0342	-.0416	-.0885	-.0886	-.0830	-.0600	-.0223	-.0444
.567	-.1022	-.1097	-.1171	-.1400	-.1355	-.1244	-.0996	-.0977	-.0886
.633	-.1344	-.1400	-.1549	-.1603	-.1622	-.1455	-.1263	-.1235	-.1162
.700	-.1702	-.1713	-.1816	-.1934	-.1880	-.1621	-.1493	-.1455	-.1410
.733	-.1941	-.2007	-.2119	-.2081	-.1926	-.1603	-.1493	-.1400	-.1309
.767	-.2134	-.2201	-.2239	-.2090	-.1816	-.1455	-.1392	-.1373	-.1364
.800	-.1702	-.1621	-.1622	-.1437	-.1189	-.1014	-.1015	-.1354	-.0932
.833	-.1077	-.1032	-.1005	-.0830	-.0674	-.0572	-.0628	-.0655	-.0637
.867	-.0397	-.0296	-.0214	-.0007	-.0029	.0007	-.0112	-.0094	-.0131
.900	.0779	.0891	.0827	.0863	.0762	.0835	.0725	.0771	.0679
.933	.1514	.1516	.1361	.1332	.1241	.1305	.1250	.1387	.1499

$\alpha = 1.9^\circ$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.2563	0.2513	0.2484	0.2476	0.2383	0.2301	0.2226	0.2301	0.2272
.033	.2067	.2117	.2088	.2015	.1950	.1868	.1830	.1794	.1793
.067	.1433	.1454	.1425	.1352	.1315	.1205	.1167	.1251	.1250
.100	.0780	.1104	.1066	.0965	.0900	.0781	.0735	.0744	.0735
.133	.0844	.0717	.0689	.0772	.0725	.0735	.0716	.0643	.0652
.167	.0412	.0256	.0256	.0256	.0238	-.0002	-.0002	.0219	.0238
.233	-.0149	-.0076	-.0057	-.0158	-.0149	-.0204	-.0168	-.0186	-.0131
.300	-.0333	-.0370	-.0342	-.0508	-.0462	-.0499	-.0444	-.0527	-.0471
.367	-.0042	-.0223	-.0195	-.0297	-.0260	-.0333	-.0278	-.0315	-.0260
.433	.0449	.0302	.0385	.0219	.0293	.0192	.0274	.0210	.0284
.500	-.0508	-.0490	-.0425	-.0674	-.0628	-.0628	-.0536	-.0591	-.0499
.567	-.1096	-.1089	-.1033	-.1144	-.1070	-.1107	-.1015	-.1080	-.1015
.633	-.1326	-.1365	-.1318	-.1347	-.1291	-.1282	-.1226	-.1264	-.1199
.700	-.1611	-.1605	-.1558	-.1641	-.1585	-.1549	-.1475	-.1540	-.1475
.733	-.1740	-.1789	-.1742	-.1752	-.1659	-.1605	-.1549	-.1549	-.1493
.767	-.1740	-.1807	-.1742	-.1715	-.1604	-.1586	-.1475	-.1476	-.1420
.800	-.1252	-.1245	-.1189	-.1209	-.1125	-.1061	-.0987	-.0987	-.0941
.833	-.0765	-.0757	-.0683	-.0711	-.0628	-.0591	-.0517	-.0591	-.0527
.867	.0035	.0035	.0090	.0072	.0136	.0109	.0164	.0109	.0155
.900	.1074	.1085	.1094	.1076	.1066	.1076	.1048	.1039	.1048
.933	.1405	.1398	.1398	.1371	.1379	.1361	.1361	.1371	.1379

$\alpha = 8.5^\circ$

x/l	A	B	C	D	E	F	G	H	I
0.017	0.3738	0.3503	0.2970	0.2473	0.1829	0.1525	0.1332	0.1516	0.1461
.033	.3094	.2979	.2510	.1948	.1369	.1111	.1019	.1167	.1111
.067	.2268	.2132	.1663	.1093	.0596	.0495	.0504	.0762	.0743
.100	.1762	.1810	.1341	.0835	.0357	.0173	.0164	.0302	.0283
.133	.1624	.1341	.0845	.0559	.0136	.0127	.0173	.0256	.0283
.167	.1119	.0808	.0403	.0044	-.0342	-.0618	-.0517	-.0177	-.0140
.233	.0384	.0357	-.0011	-.0453	-.0738	-.0756	-.0591	-.0416	-.0342
.300	.0118	-.0029	-.0370	-.0830	-.1041	-.0968	-.0719	-.0600	-.0554
.367	.0314	.0017	-.0305	-.0627	-.0738	-.0563	-.0213	-.0048	.0063
.433	.0834	.0753	.0247	-.0158	-.0489	-.0471	-.0296	-.0250	-.0140
.500	-.0140	-.0259	-.0554	-.1115	-.1207	-.1023	-.0655	-.0627	-.0453
.567	-.0948	-.1041	-.1281	-.1612	-.1603	-.1363	-.0995	-.1069	-.0876
.633	-.1297	-.1391	-.1676	-.1842	-.1842	-.1529	-.1290	-.1336	-.1161
.700	-.1656	-.1731	-.1952	-.2145	-.2017	-.1612	-.1465	-.1566	-.1354
.733	-.1913	-.2063	-.2265	-.2283	-.1971	-.1557	-.1465	-.1409	-.1244
.767	-.2179	-.2320	-.2421	-.2302	-.1777	-.1465	-.1409	-.1566	-.1465
.800	-.1793	-.1768	-.1768	-.1575	-.1143	-.1051	-.1051	-.1115	-.0931
.833	-.1150	-.1143	-.1106	-.0885	-.0664	-.0618	-.0655	-.0775	-.0664
.867	-.0507	-.0480	-.0287	-.0057	-.0048	-.0085	-.0177	-.0259	-.0269
.900	.0825	.0891	.0955	.0937	.0909	.0891	.0845	.0799	.0753
.933	.1808	.1737	.1590	.1470	.1461	.1433	.1461	.1553	.1682

NACA

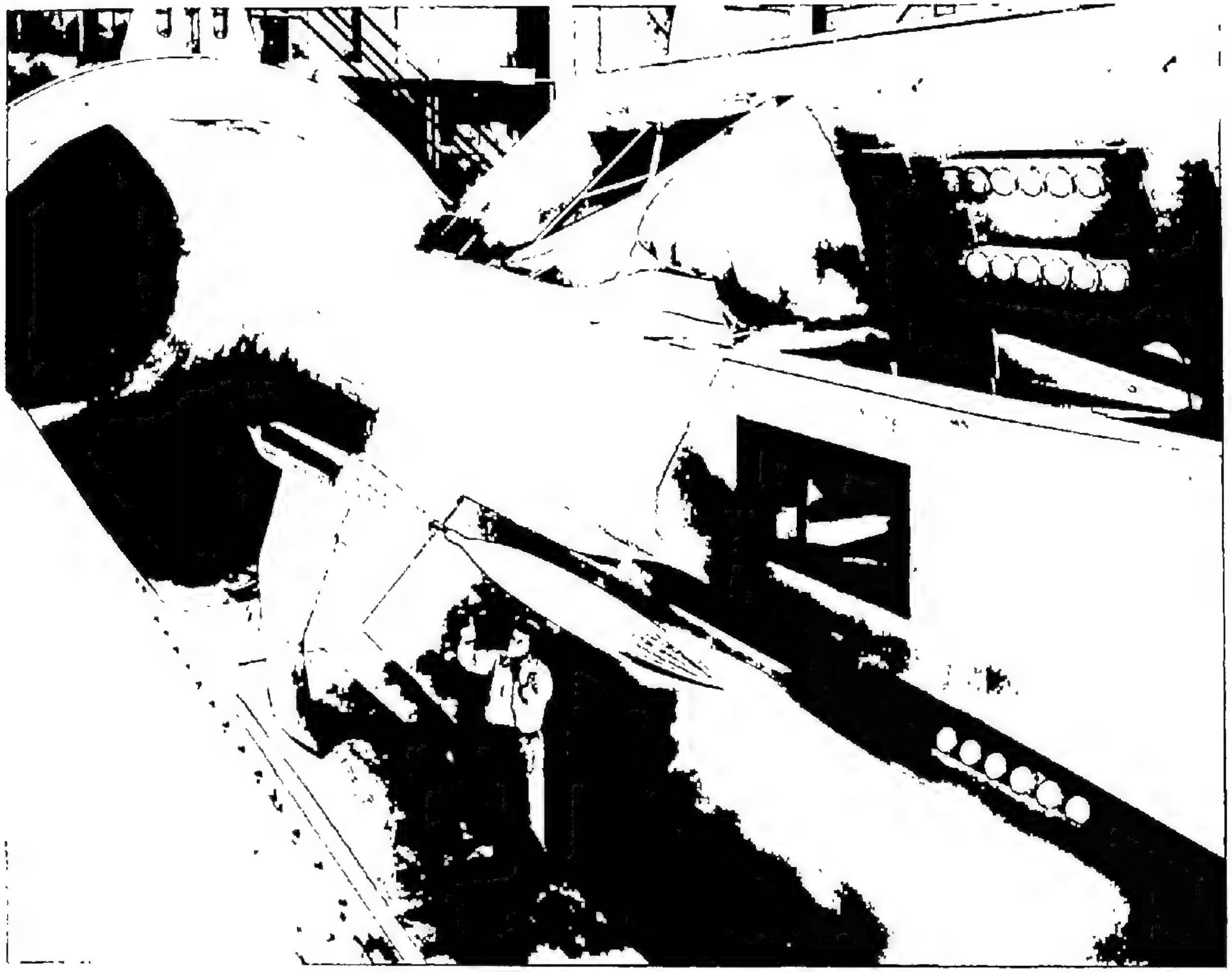

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Figure 1.- Downstream view of the test section of the Langley 16-foot transonic tunnel showing the 120-inch body installed.

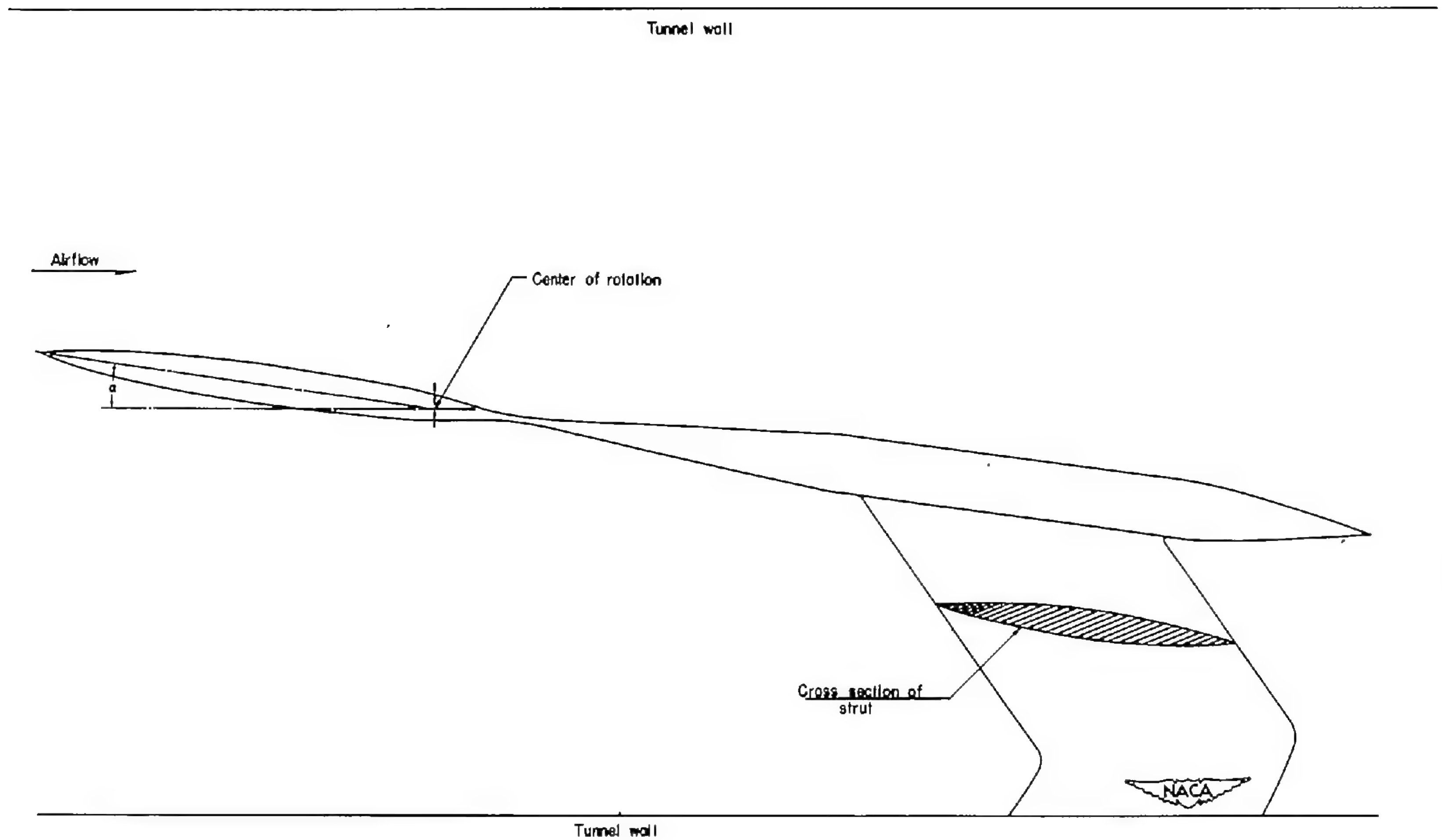
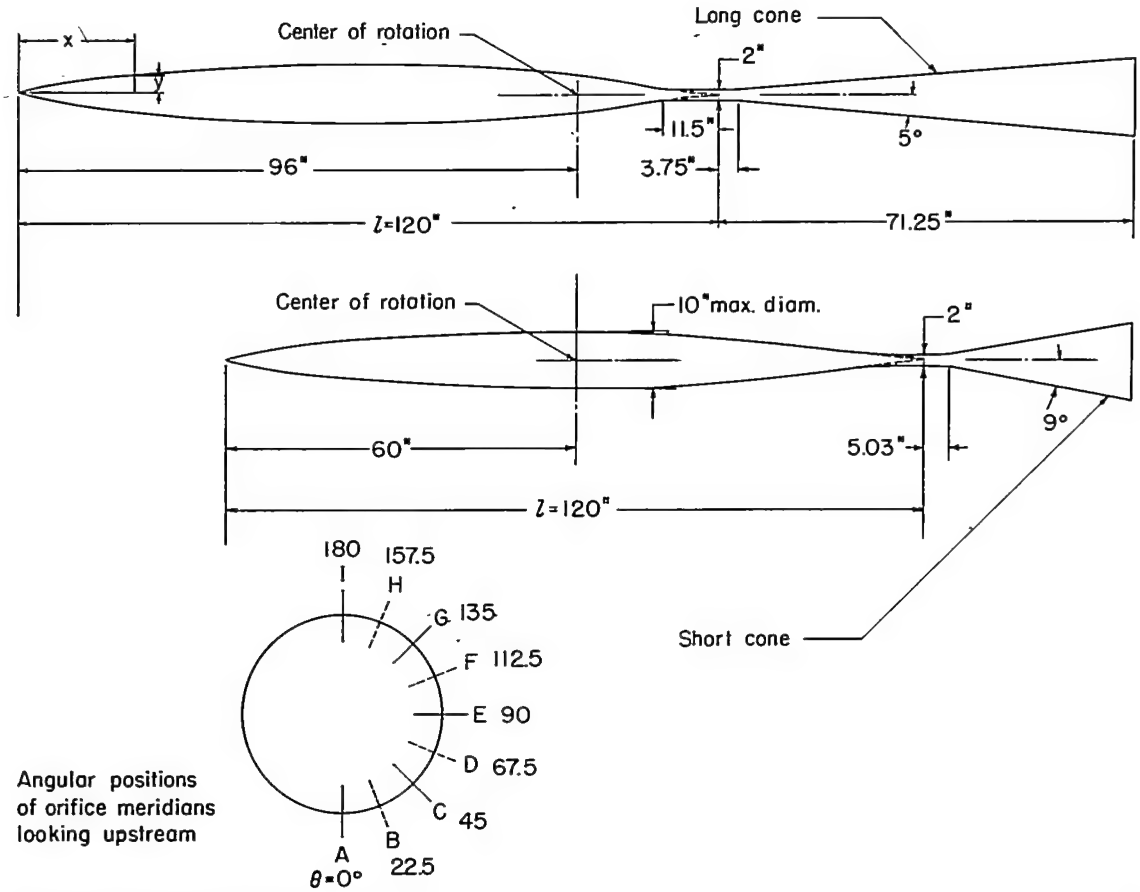


Figure 2.- Long sting configuration mounted on model support head and strut at angle of attack.

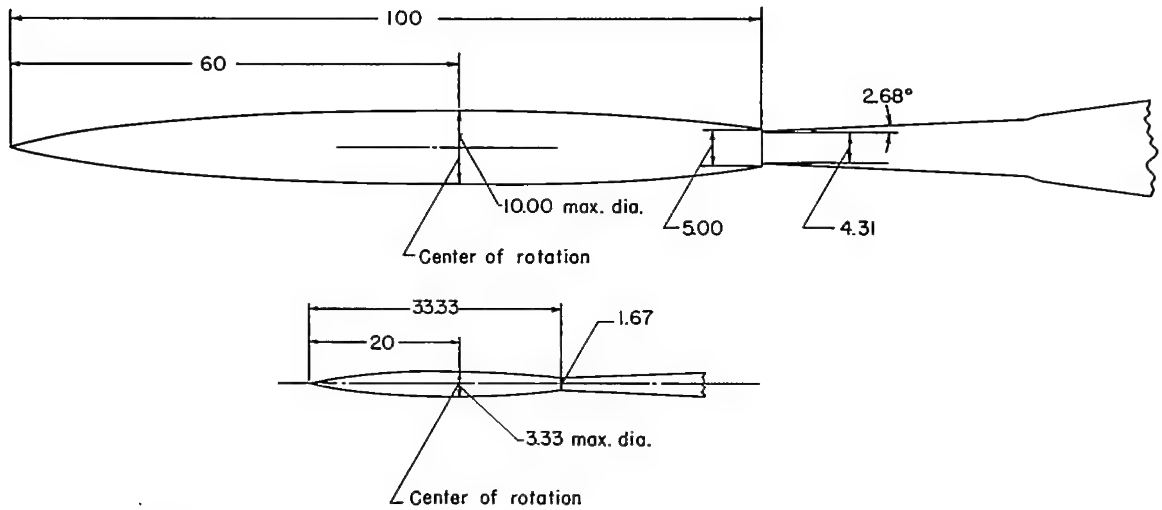


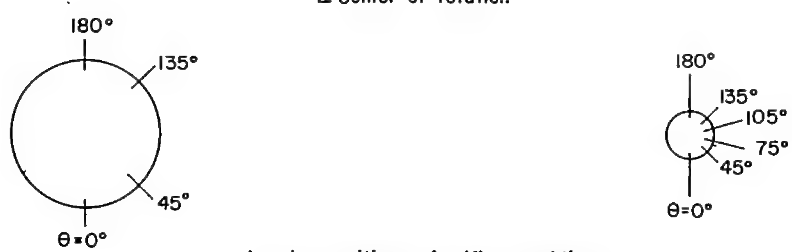
General transonic fuselage ordinates			
x/l	y/l	x/l	y/l
0	0	0.4500	0.04143
0.005	0.00231	.5000	.04167
.0075	.00298	.5500	.04130
.0125	.00428	.6000	.04024
.0250	.00722	.6500	.03842
.0500	.01205	.7000	.03562
.0750	.01613	.7500	.03128
.1000	.01971	.8000	.02526
.1500	.02593	.8333	.02083
.2000	.03090	.8500	.01852
.2500	.03465	.9000	.01125
.3000	.03741	.9500	.00439
.3500	.03933	1.0000	0
.4000	.04063		
Leading edge radius = 0.0005l			

Orifice locations	
x/l	x/l
0.017	0.567
.033	.633
.067	.700
.100	.733
.133	.767
.167	.800
.233	.833
.300	.867
.367	.900
.433	.933
.500	

(a) 120-inch body.

Figure 3.- Dimensions and details of models tested in Langley 16-foot transonic tunnel.





Angular positions of orifice meridians

100-inch body

Orifice locations	
x/l	l = 120"
0.017	0.433
.033	.467
.067	.500
.100	.533
.133	.567
.167	.600
.200	.633
.233	.667
.267	.700
.300	.733
.333	.767
.367	.800
.400	

33.33-inch body

Orifice locations	
x/l	l = 40"
θ=0°,45°,135°,180°	θ = 75°,105°
0.0625	0.1625
.1125	.2125
.1625	.2625
.2125	.3125
.2625	.3625
.3125	.3875
.3625	.4125
.4125	.4375
.4625	.4625
.5125	.4875
.5625	.5125
.6125	.5325
.6625	.5625
.7125	.5875
.7625	.6125
.8125	.6375
	.6625
	.7125

NACA

(b) 100- and 33.33-inch bodies.

Figure 3.- Concluded.

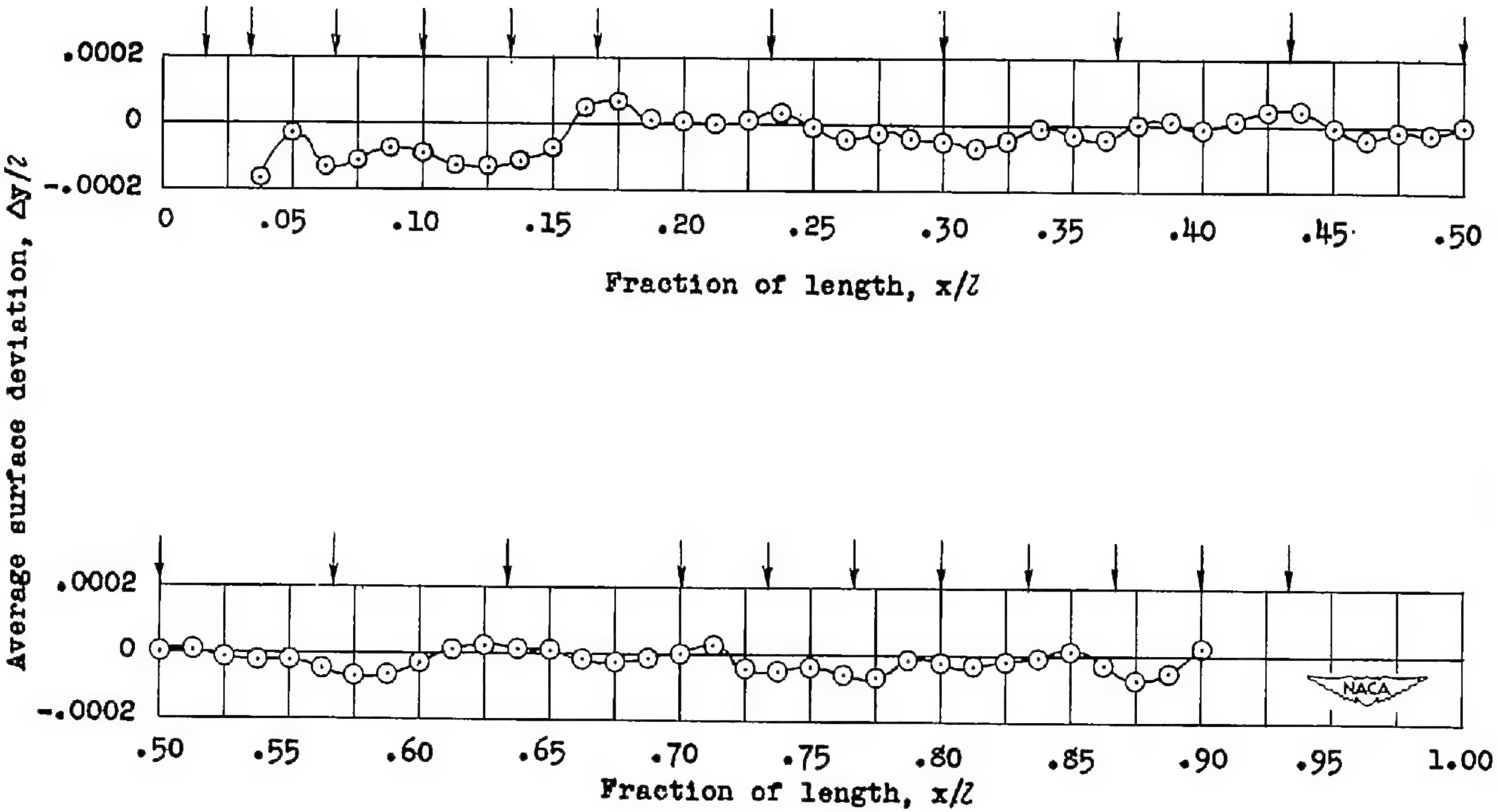
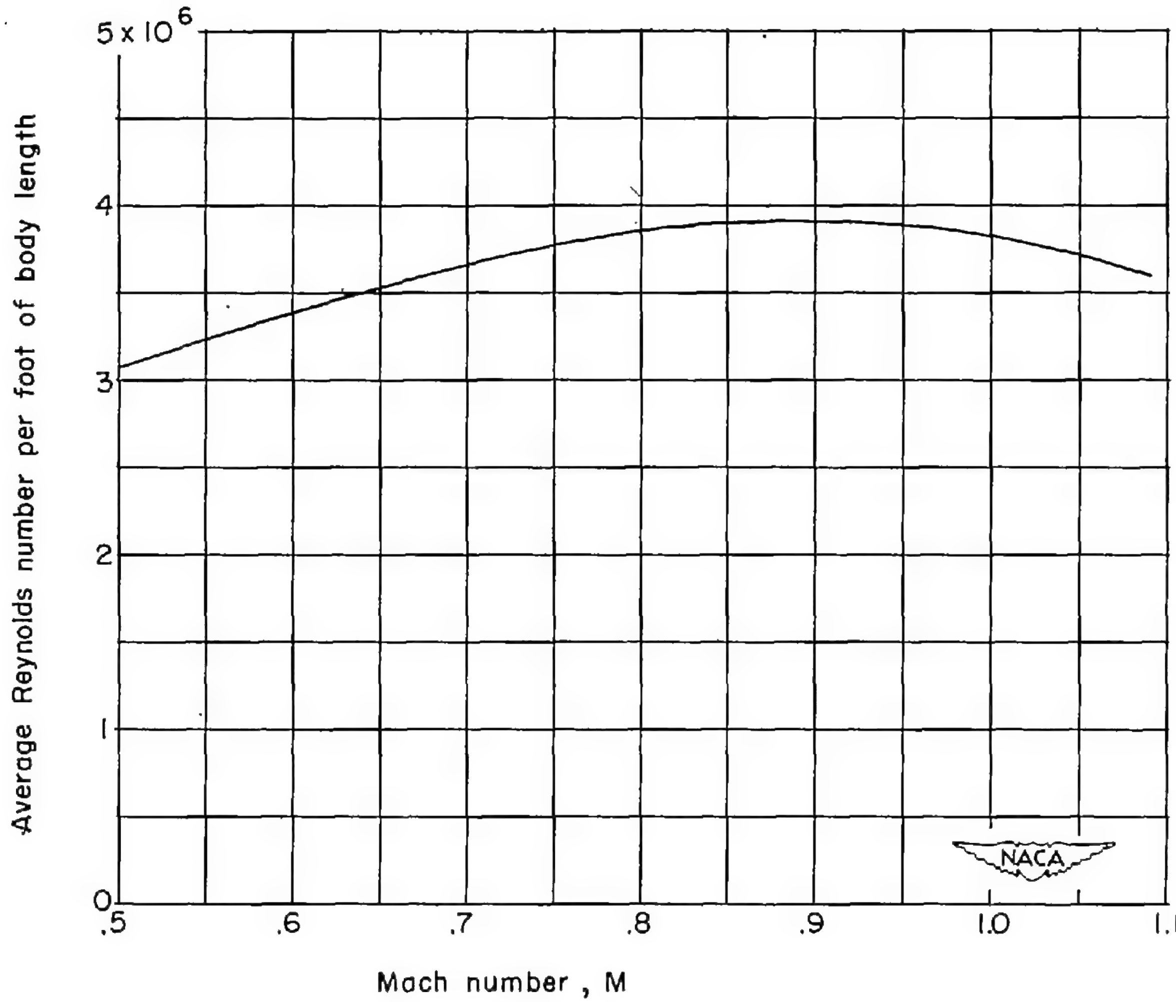
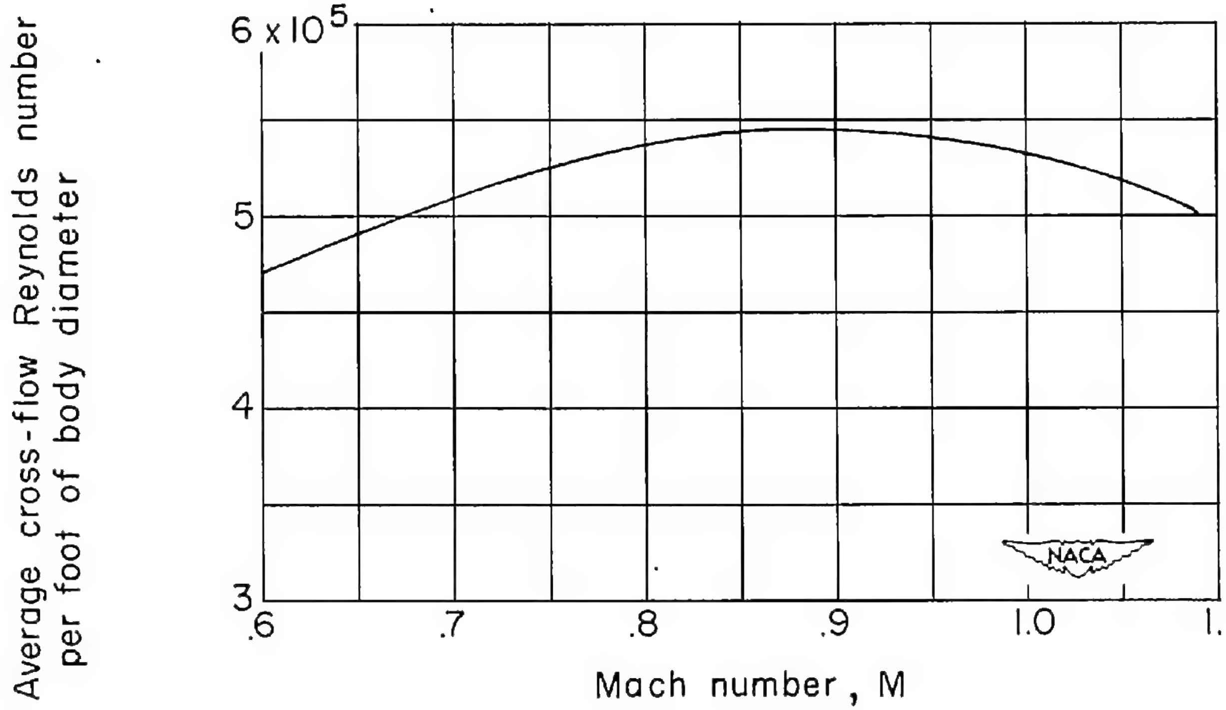


Figure 4.- Measured surface deviation along the 100-inch and 120-inch bodies from a faired curve. Arrows denote locations of pressure orifices of the 120-inch body.



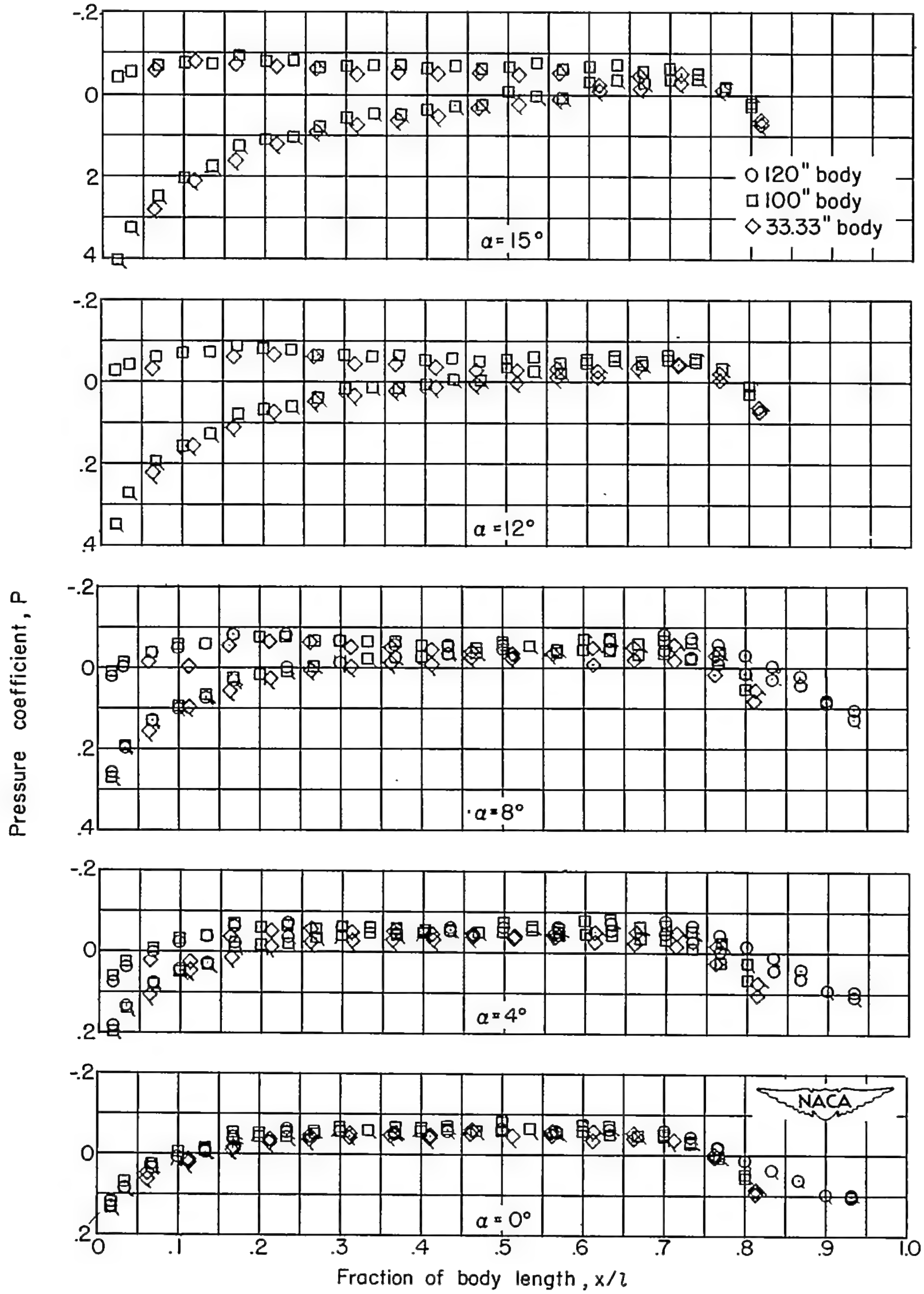
(a) Reynolds number per foot based on body length.

Figure 5.- Variation of average Reynolds number with Mach number for tests in the Langley 16-foot transonic tunnel.



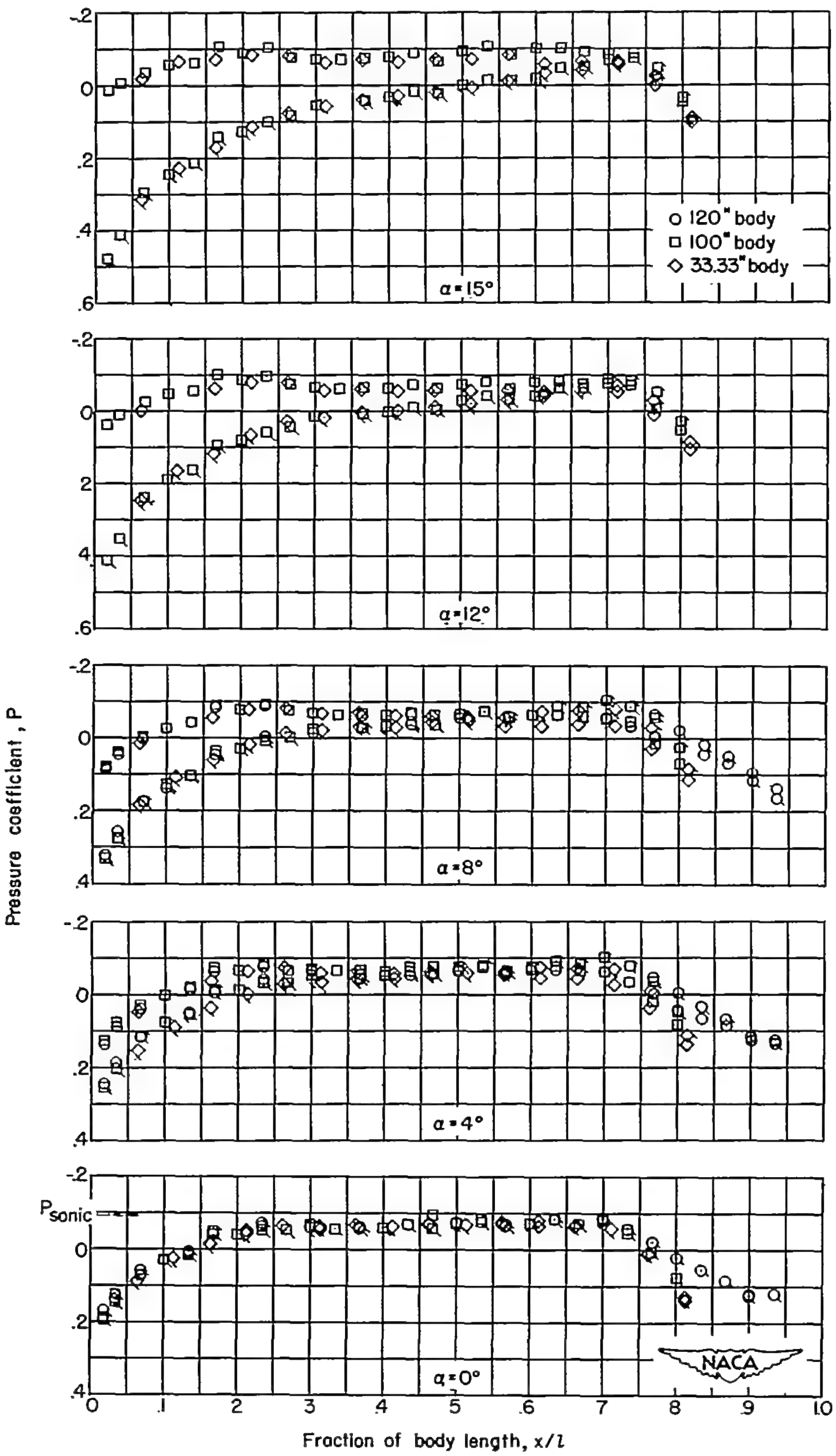
(b) Cross-flow Reynolds number per foot based on maximum body diameter at 8° angle of attack.

Figure 5.- Concluded.



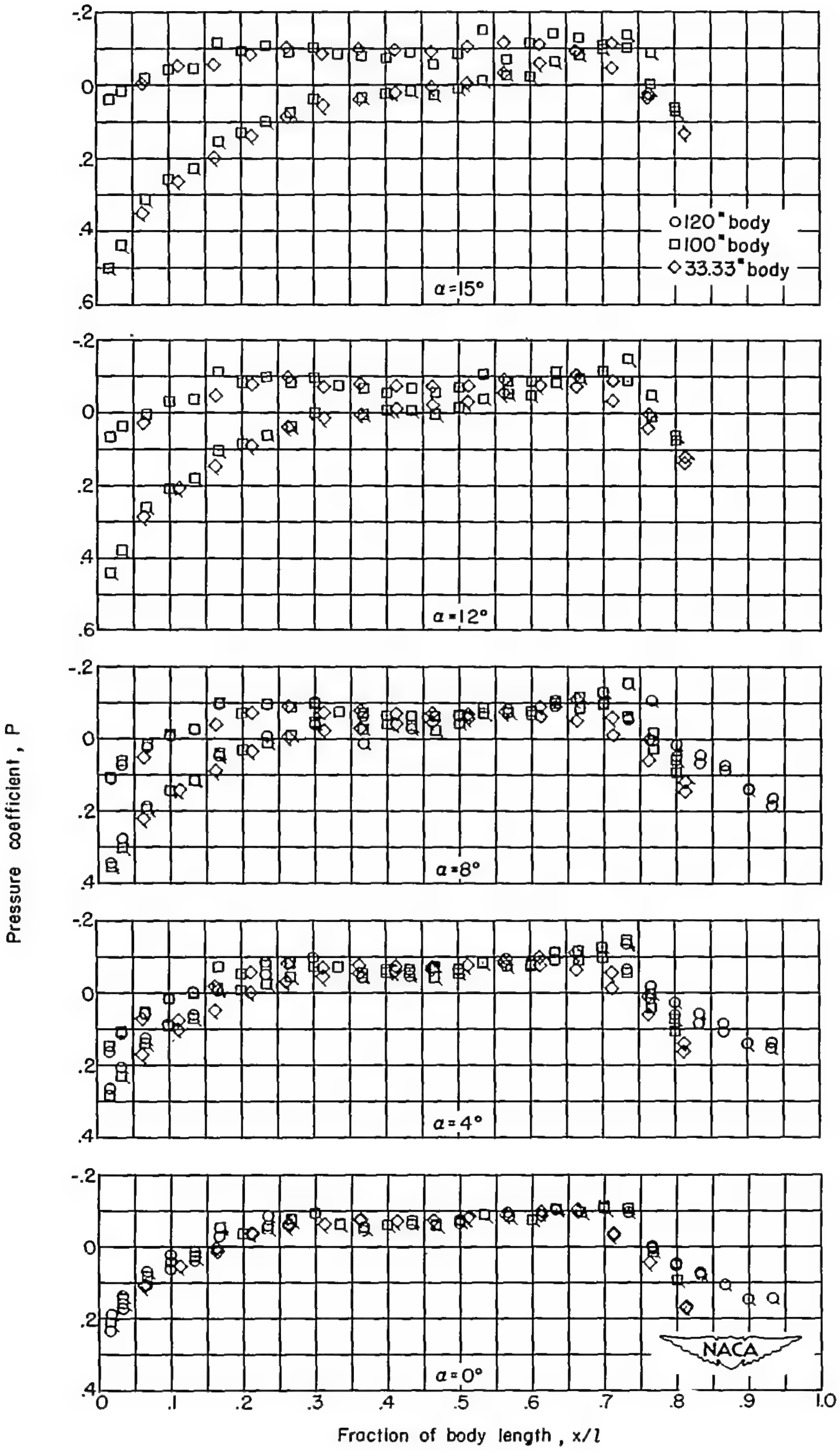
(a) M = 0.60.

Figure 6.- Comparison of pressure coefficients over the three bodies with angle of attack. Plain symbols are 180° meridian and flagged symbols are 0° meridian.



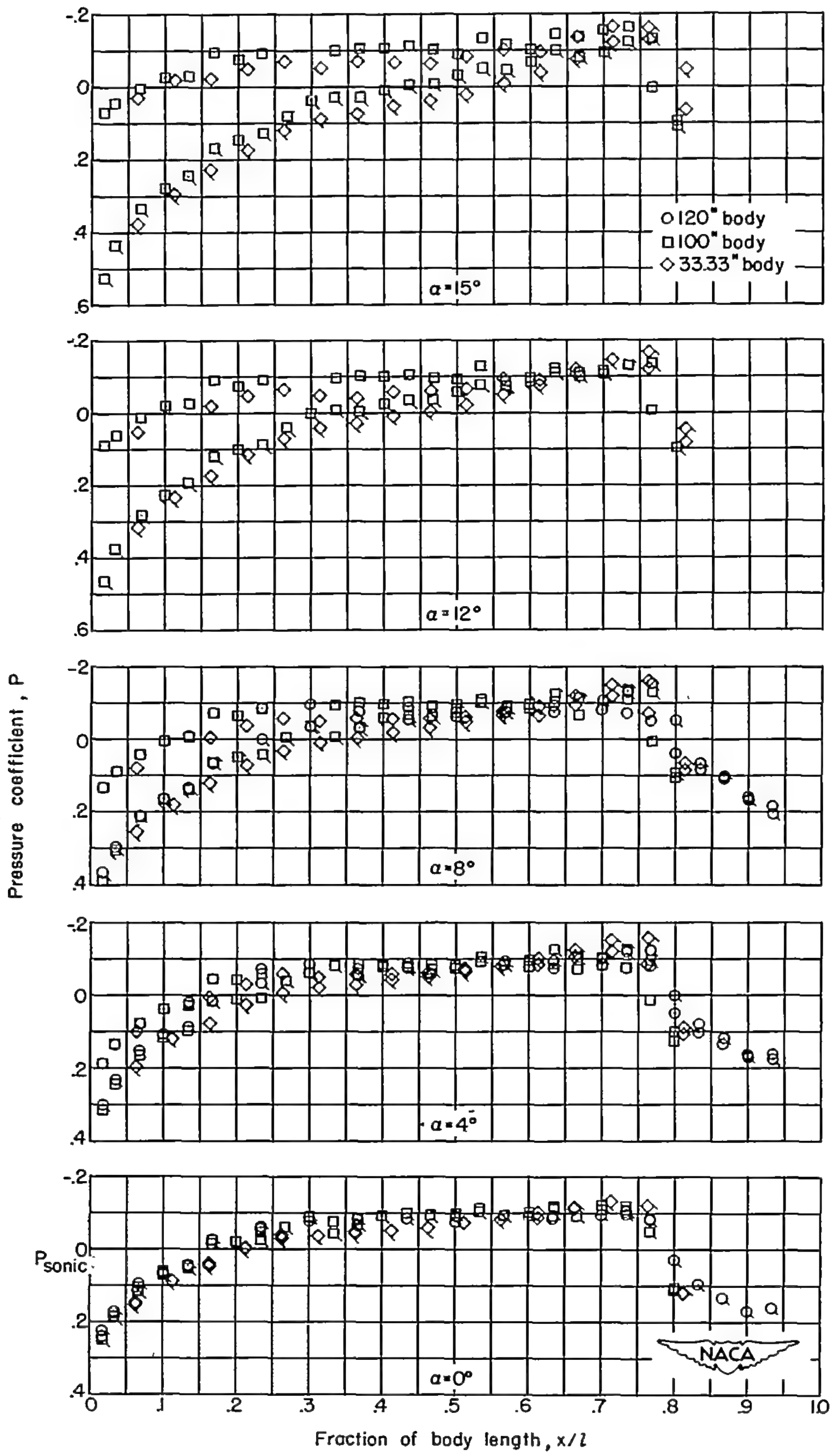
(b) M = 0.95.

Figure 6.- Continued.



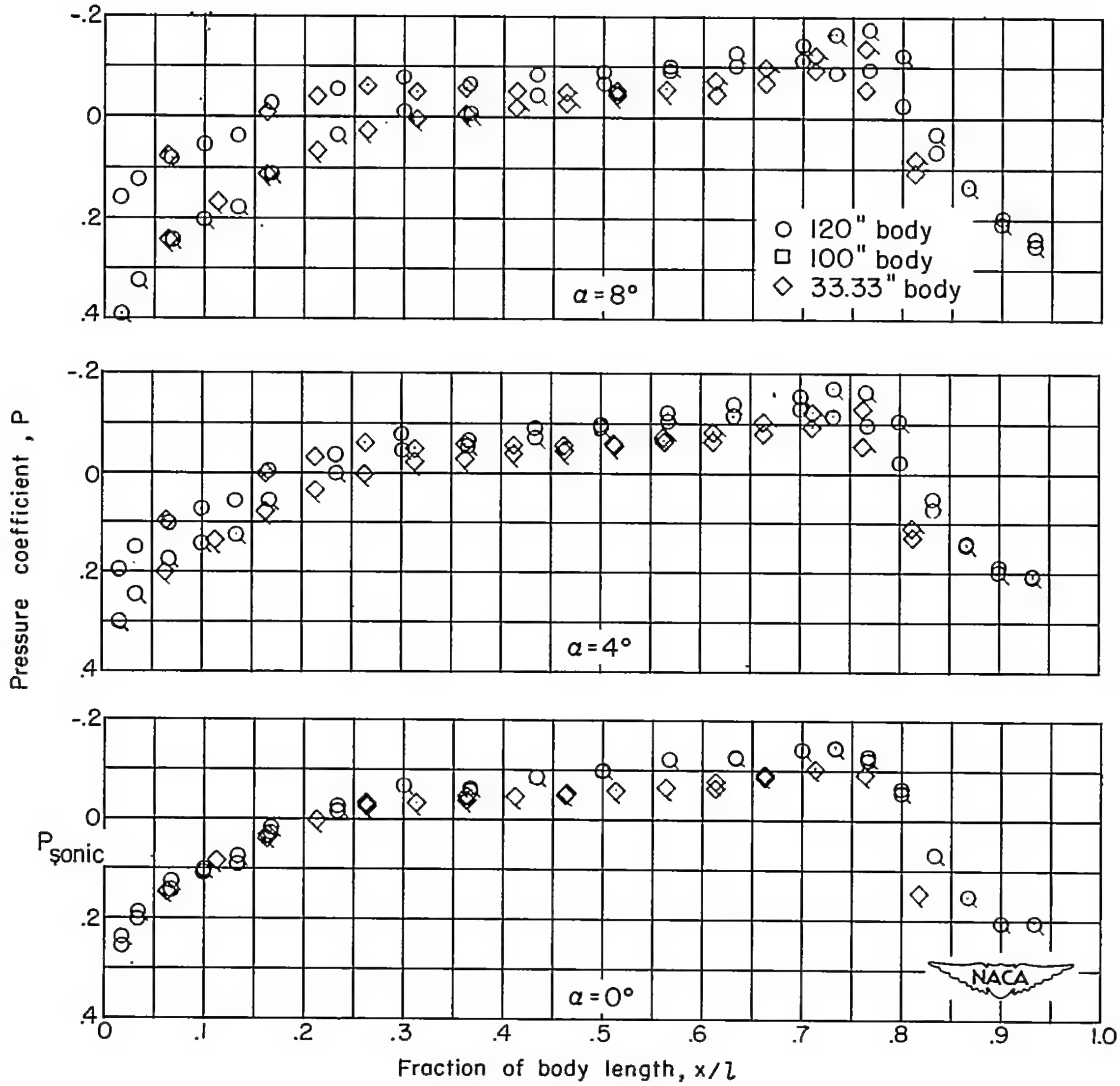
(c) M = 1.00.

Figure 6.- Continued.



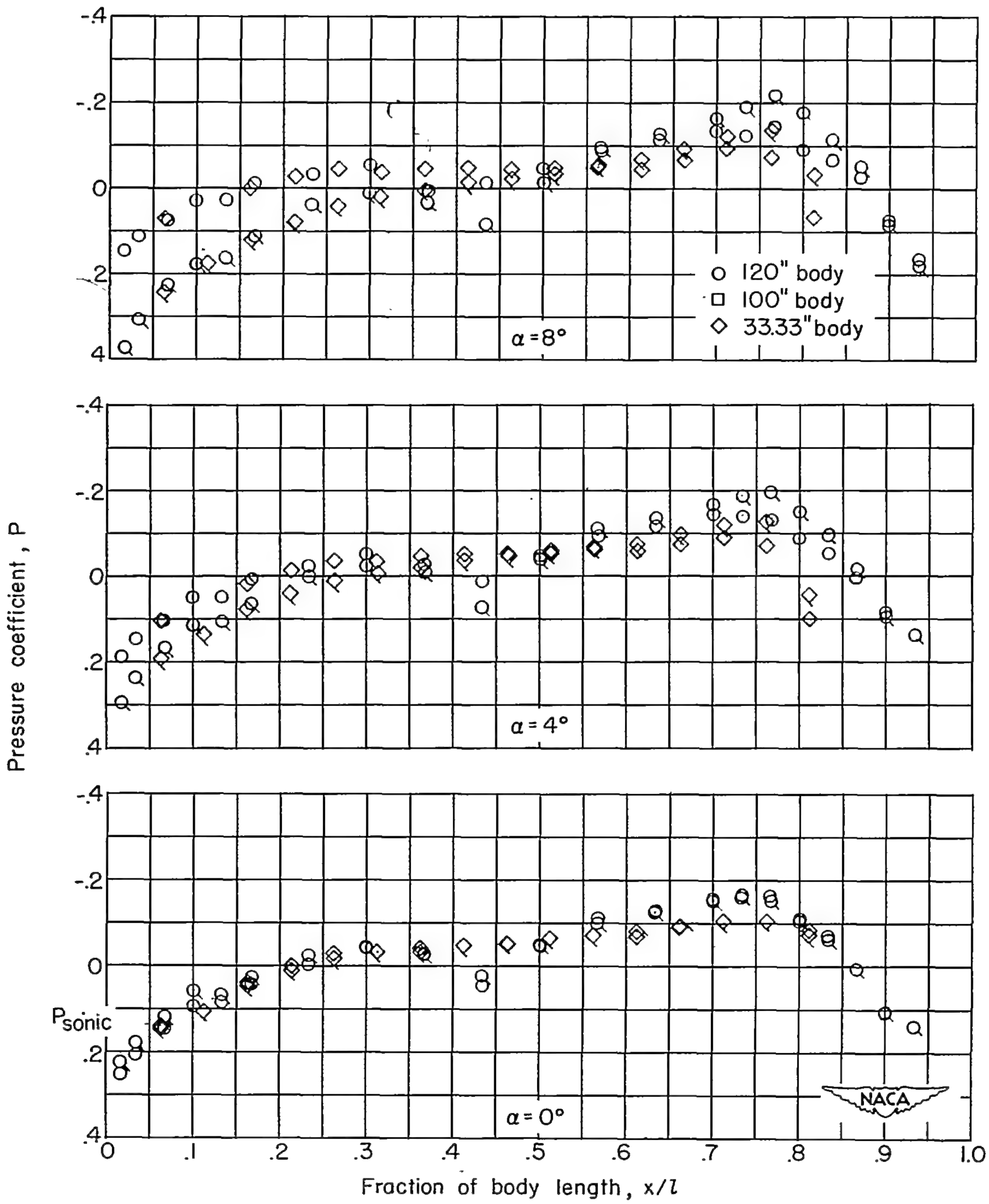
(d) M = 1.02.

Figure 6.- Continued.



(e) M = 1.05.

Figure 6.- Continued.



(f) M = 1.09.

Figure 6.- Concluded.

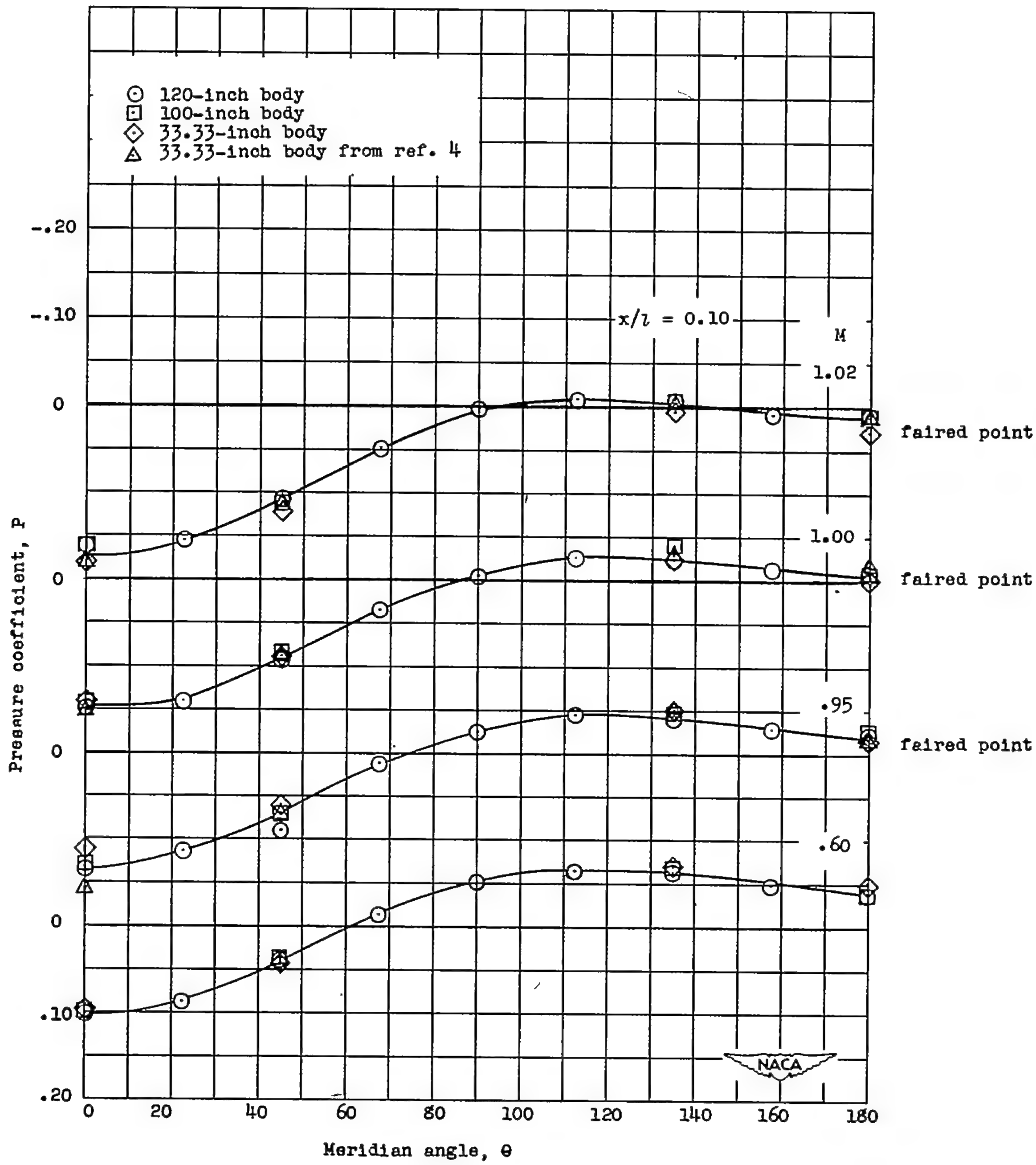


Figure 7.- Circumferential pressure distributions at one body station ($x/l = 0.10$) for four Mach numbers at 8° angle of attack.

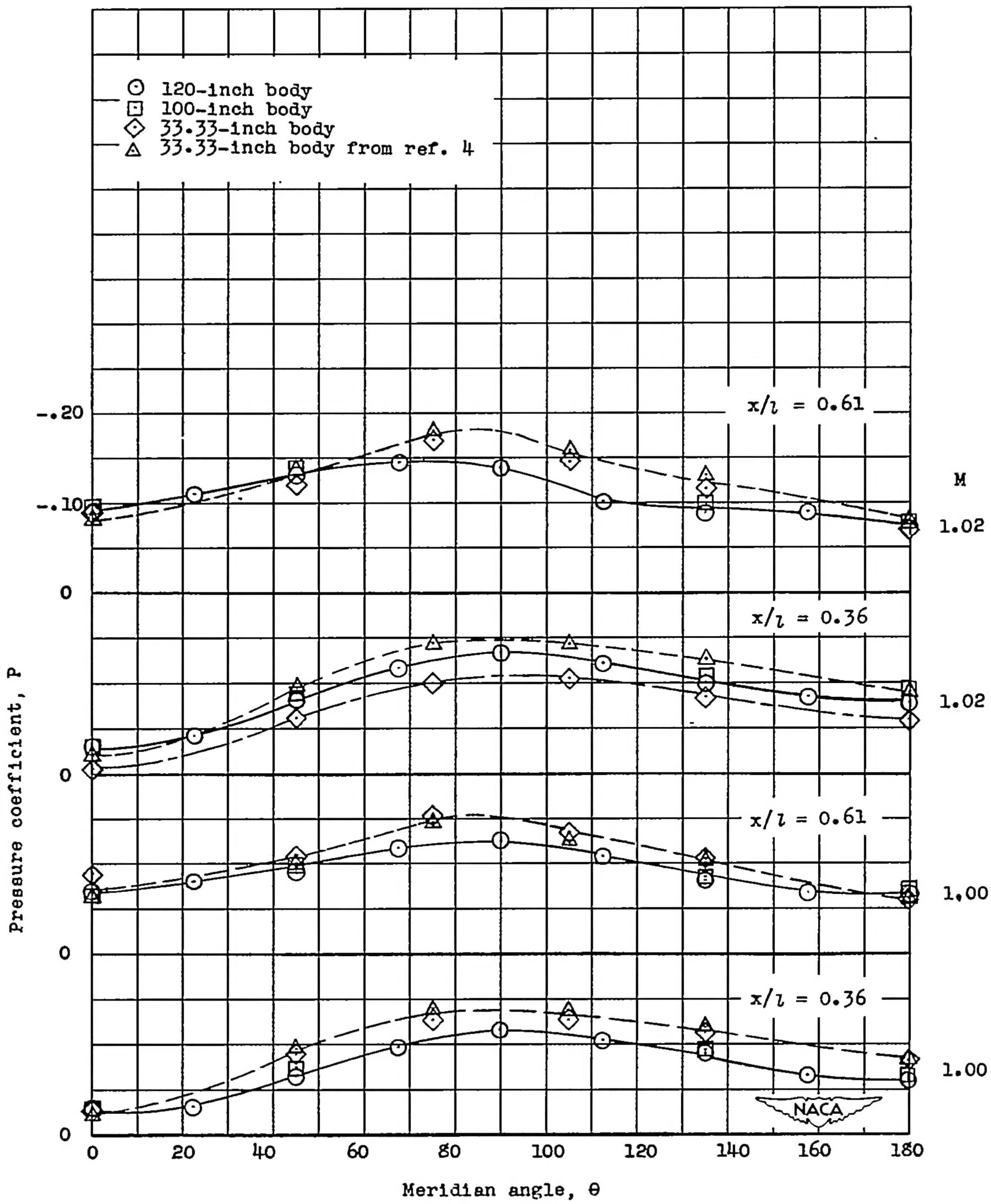


Figure 8.- Circumferential pressure distributions at two body stations (x/l = 0.36 and 0.61) for two Mach numbers at 8° angle of attack.

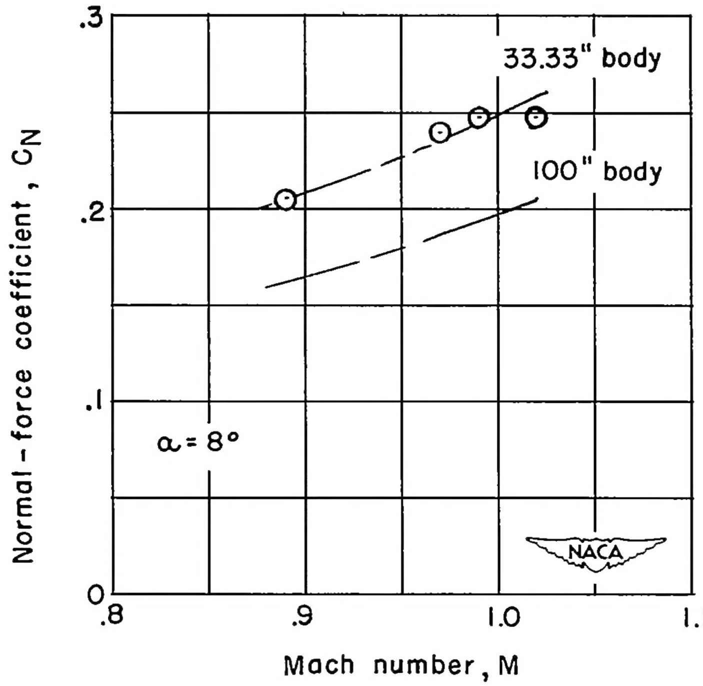


Figure 9.- Variation of the normal-force coefficient with Mach number of the 100- and 33.33-inch bodies at 8° angle of attack.

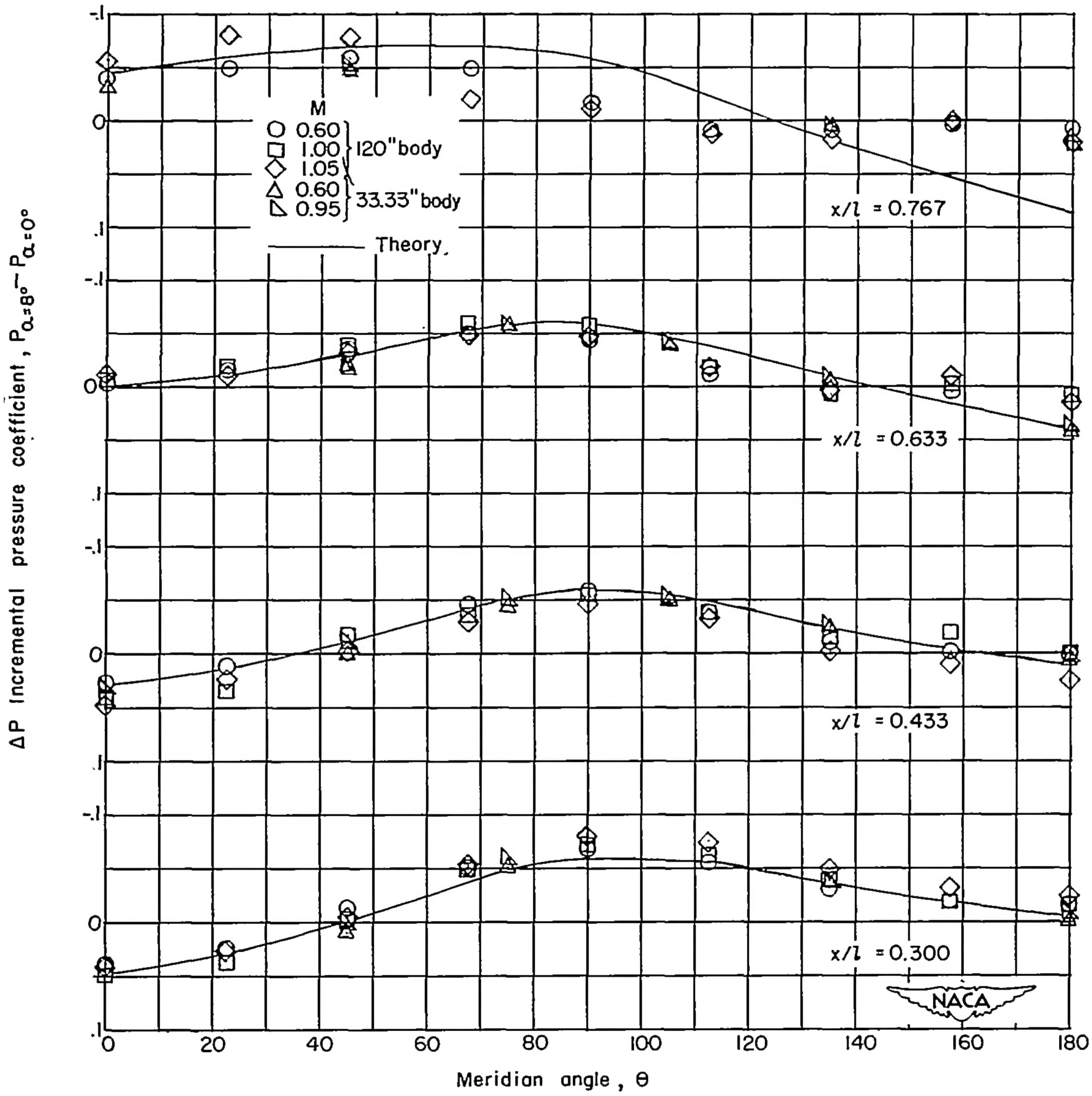


Figure 10.- Incremental-pressure-coefficient distribution with radial angle at 8° angle of attack for two different bodies.

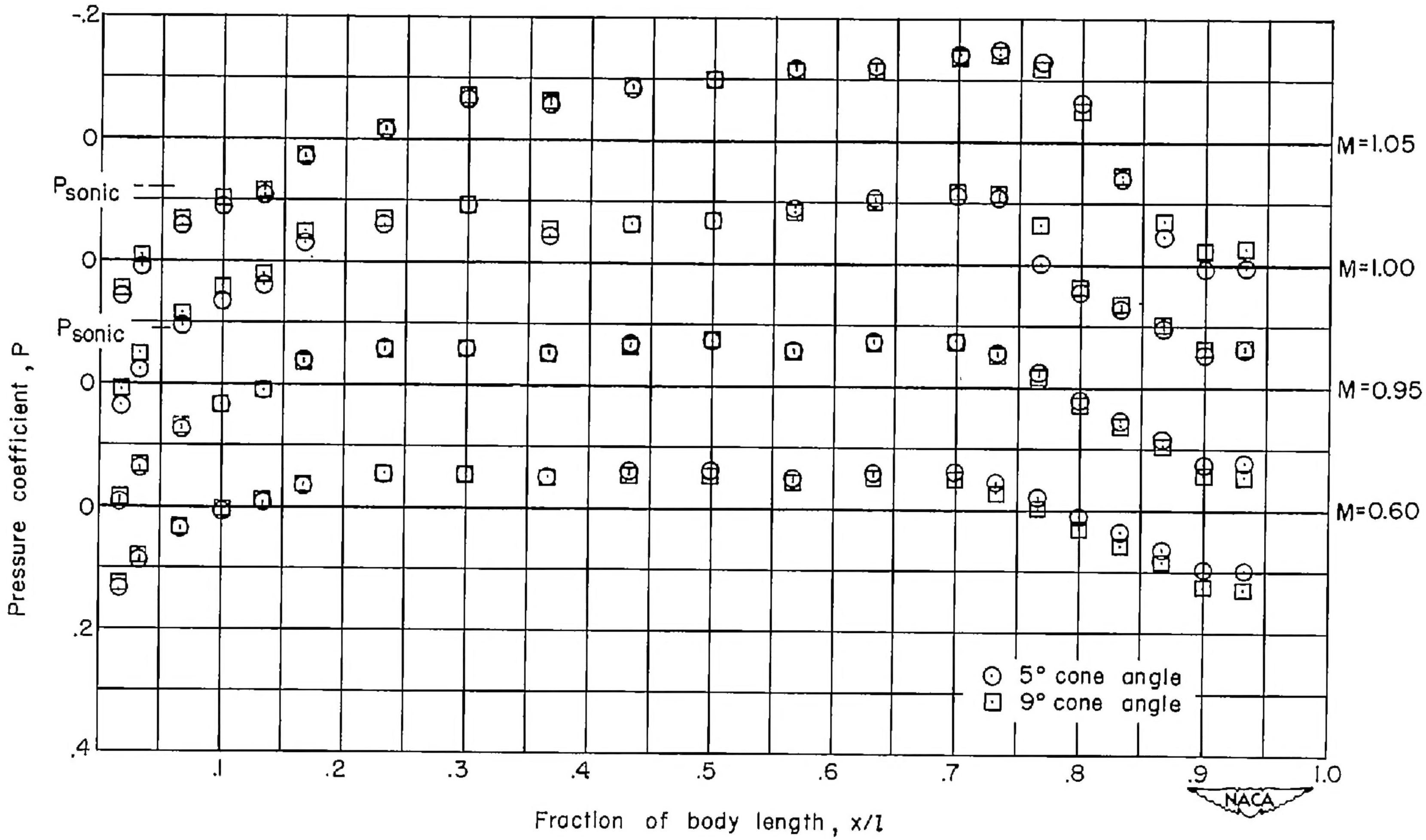


Figure 11.- Variation of pressure coefficient on the 120-inch body along the 180° meridian for the 5° and 9° string-cone angles with Mach number at 0° angle of attack.

[redacted]

[redacted]